SACE Stage 2 **Psychology Workbook**

Kirsty Gebert and Deb Green

Essentials education

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Contents

6 **TOPIC 1: PSYCHOLOGY OF THE INDIVIDUAL**
7 1.1 Concepts of personality Psychodynamic approach
17 1.2 Concepts of personality Humanistic approach
33 1.3 Concepts of personality Trait approach
44 1.4 Personality assessment
60 1.5 Understanding personality in everyday experiences
66 1.6 Personality disorders
76 1.7 Investigating personality

90 **TOPIC 2: PSYCHOLOGICAL HEALTH AND WELLBEING**
91 2.1 Cultural influences on mental health
102 2.2 Influence of social media on mental health
113 2.3 Importance of sleep for mental health
130 2.4 Influence of stress on mental and physical health
150 2.5 Mental health disorders
162 2.6 Resilience

166 **TOPIC 3: ORGANISATIONAL PSYCHOLOGY**
167 3.1 Introduction to organisational psychology
177 3.2 Measuring Individual, group and organisation performance
189 3.3 Right person for the job
203 3.4 Motivation
215 3.5 Teamwork
221 3.6 Leadership
232 3.7 Culture and climate

246 **TOPIC 4: SOCIAL INFLUENCE**
247 4.1 Obedience
263 4.2 Conformity
282 4.3 Attitudes and persuasion
308 4.4 Prejudice and discrimination
324 4.5 Self preservation (impression management)

336 **TOPIC 5: THE PSYCHOLOGY OF LEARNING**
337 5.1 Classical Conditioning
358 5.2 Operant Conditioning
392 5.3 Observational learning
408 5.4 Personal differences in learning

414 **SCIENCE INQUIRY SKILLS**
415 SIS 1 Biopsychosocial approach
425 SIS 2 Scientific method
442 SIS 3 Investigation designs
459 SIS 4 Data collection and presentation
471 SIS 5 Using statistics to analyse trends, patterns and correlations
480 SIS 6 Critical evaluation of procedures and data
486 SIS 7 Drawing conclusions and making generalisations
492 SIS 8 Ethical practice

512 **SCIENCE AS A HUMAN ENDEAVOUR**

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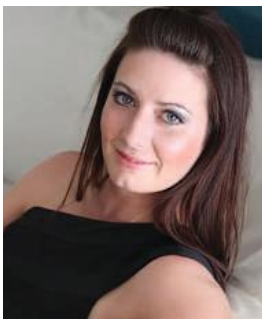

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The authors wish to acknowledge the Aboriginal and Torres Strait Islander peoples of this nation. We acknowledge the traditional owners of the country throughout Australia and their continuing connection to the land, culture and community. We acknowledge the traditional custodians of the lands on which we live, learn, and teach, and where this book was written. We acknowledge the cultural diversity of all Aboriginal and Torres Strait Islander peoples and pay respect to Elders past, present and emerging. We celebrate the continuous living cultures of First Australians and acknowledge the important contributions Aboriginal and Torres Strait Islander people have and continue to make in education.

Preface

This workbook has been written for students and educators undertaking Stage 2 Psychology in 2022. There are five topics as prescribed by the Science Understandings in the new SACE Subject Outline. Each topic also includes a full description of the content the authors have interpreted from the SACE subject outline, real world application activities, case studies, informative and coloured diagrams and questions aimed at checking for understanding. Key terms have been highlighted in bold and included as a glossary which will be available on the digital platform.

SCIENCE INQUIRY SKILLS

Science Inquiry Skills have been considered throughout each topic and provide opportunities for students to apply their SIS knowledge and understanding in context, analyse data and formulate conclusions. All Science Inquiry Skills questions throughout the workbook have been colour coded in red and are identifiable with the brain symbol. Building on the SIS skills, sample Deconstruct, and Design tasks have been provided for teacher consideration. These may be adopted, adapted or reconstructed to suit student contexts.

Science Inquiry Skills are embedded throughout the five topics of the Stage 2 course and can be taught as a standalone topic using the SIS chapter which can be found at the end of the workbook.

LINKING SYMBOL

This linking symbol has been used throughout the text to show where there are similarities in concepts between the topics, as well as to provide a link back to the Science Inquiry Skills topic. Teachers and students are encouraged to seek transfer of their learning and be able to apply their theoretical understanding of a psychological concept in one topic, to an application in a different topic.

SCIENCE AS A HUMAN ENDEAVOUR

Science as a Human Endeavour (SHE) concepts and activities are provided throughout the workbook and are identifiable by the use of a green heading, and the globe icon. These activities can be used as a strategy to get students familiar with identifying the key elements of science: communication and collaboration between scientists, governments and other agencies, the development of new technologies and theories, the influence of other areas and considerations, and the application and limitations in psychology. As there is a performance standard related to science in society in Assessment Type 3 (External Exam) students and teachers are encouraged to seek out and practice SHE related question to be able to meet the Performance standard and demonstrate they are able to critically explore and understand in depth the interaction between science and society.

CHECKING FOR UNDERSTANDING

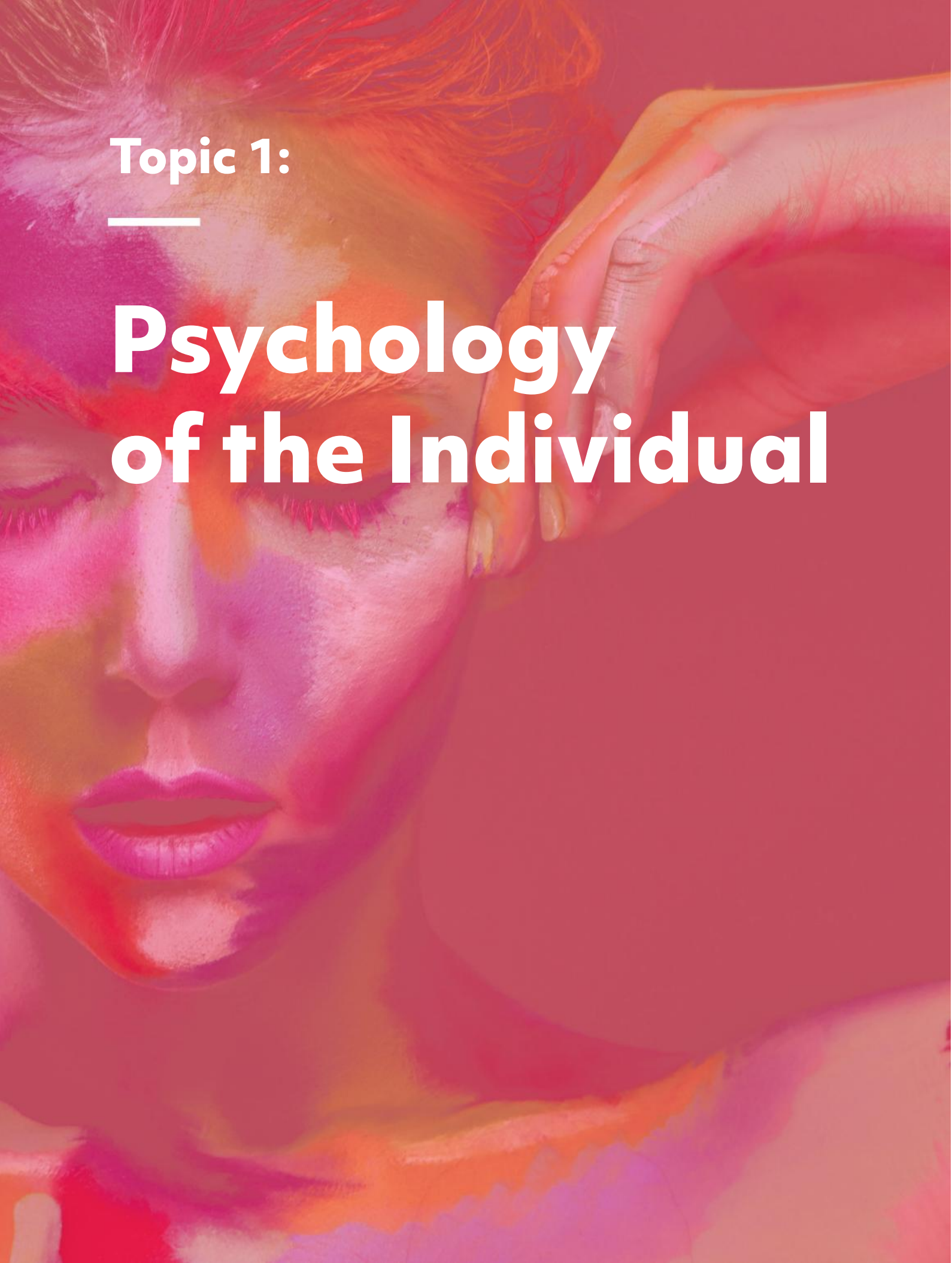
Checking for understanding questions in the workbook allow students to build their confidence in addressing and applying their knowledge and understanding to a range of questions that target the SACE Performance Standards. Questions ask students to recall, apply and describe their knowledge of the concepts addressed in the topic to both real world and hypothetical examples.

HELPFUL ONLINE RESOURCES

Within each topic 'helpful online resources' can be found and accessed using a QR code, or clicking the link in the digital version of the book. Online resources include links to You Tube clips, readings, articles and interactive activities aimed at providing further depth into each topic.

WEBSITE LINKS DISCLAIMER Although all of the websites recommended in the workbook were relevant and operational at the time of publication, their the authors or the publisher can accept any responsibility for an changes that many have occurred to these websites since. Likewise we are unable to accept responsibility for any malicious software these websites may include and whether particular applications included will operate properly on various platforms.

We hope that you find this resource helpful, and that it demonstrates the interconnection between all the different facets of Psychology and how they relate to our own lives. The authors and publisher wish you all the best for your studies in Stage 2 Psychology.



Topic 1:

Psychology of the Individual

1.1 CONCEPTS OF PERSONALITY PSYCHODYNAMIC APPROACH

- **Describe the psychodynamic approach to personality.**
- **Discuss the strengths and weaknesses of Freud's psychodynamic approach.**

2022 Subject Outline | Stage 2

Personality refers to the characteristics of feelings, cognitions and behaviours that make each of us unique, all of which can be shaped in response to biological and environmental factors. Personality theory helps to explain individual differences in response to life experiences and motivational factors behind behaviour such as engagement in crime, job performance or health outcomes.

Most theories of personality agree that personality remains relatively consistent, however personality traits can change over time and quite often for the better. Significant changes in personality are generally the result of illness or injury. The study of personality includes a range of concepts and perspectives including psychodynamic, humanistic and trait theory alongside various personality assessment and applications.

Have you ever wondered why we do the things we do, or wondered what role your childhood plays in shaping the adult you become? If so, Freud's theory, which falls under the umbrella of Psychodynamic theory, may be of interest.

Psychodynamic theory

Psychodynamic theory was first developed by Sigmund Freud (1856 to 1939), an Austrian neurologist. His theory emphasizes the role of unconscious psychological processes such as fear, wishes and desires, and contends that childhood experiences are crucial in shaping personality. Freud developed Psychoanalysis which he used with his patients in attempt to cure mental illness and was the only one of his time to systematically listen to and analyse every word his patients ever told him to truly understand the inner world (unconscious) and the influence this had on one's psychological wellbeing and driver of behaviour. As you read through his theory you will understand why early psychodynamic theories were controversial, however, Freudian theory was the first model to have a breakthrough into mainstream mental health with talking therapy as an acceptable model of treatment.

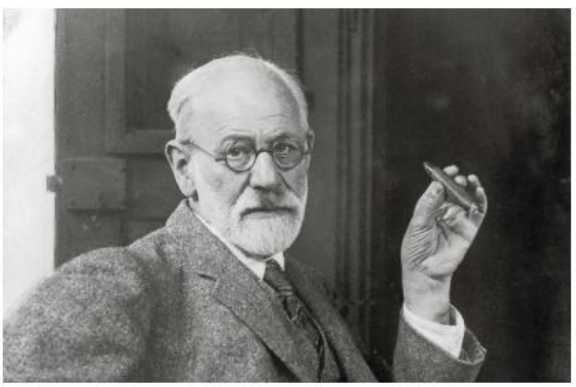


Figure 1.1.1: Freud is famously portrayed with his glasses and cigar in hand.

HELPFUL ONLINE RESOURCES

Further reading:
Personality and Aging
https://tinyurl.com/83r3s38f

KEY CONCEPTS OF FREUD'S PSYCHODYNAMIC APPROACH

CONCEPT 1

The human psyche (mind) comprises three levels: **conscious (ego), preconscious** and the **unconscious (id)**. The conscious level holds the information that we are aware of at any given time, what you are doing and thinking in this moment, feelings, and perceptions.

The **preconscious** level is the information that we are aware of but is not currently in our conscious thoughts, for example, who your year 7 teacher was or what you had for breakfast. Preconscious material can easily come into the conscious merely by thinking about it (retrieving); this is considered as information laid just beneath the surface (see Figure 1.1.2).

Freud believed the **unconscious** level of the mind was the keeper of our darkest wishes, fears, unacceptable sexual desires, instincts, and trauma-based memories. Much of our behaviour is driven by unconscious psychological processes and shapes our personality. The unconscious level is considered to serve as the self-protector of the psyche, repressing all the information that could cause psychological distress if it were to move to the conscious mind. The psyche according to Freud, is like an iceberg indicating that our conscious mind is only the tip of the iceberg with most of the information relating to our drive and personality lying deep beneath the surface.

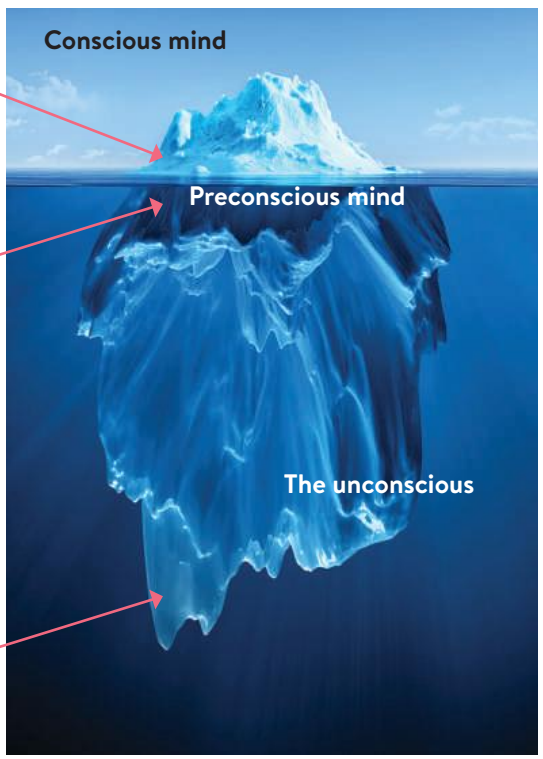
THE UNCONSCIOUS MIND

The conscious. The small amount of mental activity we know about.

The preconscious. Things we could be aware of if we wanted or ried.

The unconscious. Things we are unaware of and can not become aware of.

The id is part of the unconscious mind and comprises the two instincts: Eros and Thanatos.



Thoughts
Perceptions

Memories
Stored knowledge

Instincts -
Sexual and aggressive

Fears
Unacceptable sexual desires
Violent motives
Irrational wishes
Immoral urges
Selfish needs
Shameful experiences
Traumatic experiences

Freud compared the mind to an iceberg

Figure 1.1.2: The levels of the mind according to Freud.

Whilst it is difficult to access the scientific nature of the existence of the unconscious, Bargh & Morsella, (2008) suggest that many of our mental activities—memories, motives, feelings, and the like—are largely inaccessible to our consciousness. Look at the links below to learn more and consider more contemporary views on the Unconscious mind.

HELPFUL ONLINE RESOURCES

The Unconscious Mind Research by Bargh and Morsella 2008. **https://tinyurl.com/5dun6a7**

Freudian Theory and Consciousness: A Conceptual Analysis **https://tinyurl.com/4ddn6z6x**

Freud (1900) considered dreams to be the *royal road to the unconscious,* as it is in dreams that the ego's defences are lowered so that some of the repressed material comes through to awareness, albeit in distorted form. Dreams perform important functions for the unconscious mind and serve as valuable clues about how the unconscious mind operates and influences behaviour. He also made a distinction between the dream material presented (manifest content) and the hidden meaning behind the dream (latent content). Freud believed that the psyche disguises the true nature of distress or confronting material in dreams and presents it in a more acceptable and less confronting way, e.g. dreaming of a snake (manifest content) coming to get you rather than a person (latent content) in your life who causes you to feel threatened.

Figure 1.1.3: Manifest content of dreams.

Freud would argue further support for the existence of the human psyche and particularly the unconscious due to a phenomenon known as the "Freudian slip'. Can you recall a time where you called your teacher, mother! or meant to say one thing and said another? (Freudian slips). Freud believed that this was the unconscious mind revealing itself. According to Freud the reason behind calling your teacher mother is because you unconsciously associate something similar between your mum and your teacher. Click on the link below to watch some very funny clips of Freudian slips.

HELPFUL ONLINE RESOURCES

Follow this link to learn more about Classic Freudian slips: **https://tinyurl.com/55epa8wb**

CONCEPT 2

Freud later developed his theory to include the concept of the psyche having three interactive structures known as the Id, Ego, Super-ego. These structures develop through childhood and serve to satisfy our basic urges throughout life and corresponds with the conception of the levels of the psyche previously discussed. Freud noted through the work with his patients that conflict occurred between these structures thus reinforcing his theory that early childhood experiences play a crucial role in the successful development of personality. According to Freudian theory, unresolved conflict between the Id, Ego and Super-Ego results in the development of abnormal psychopathology.

ID

Based on the pleasure principle

ID exists from birth

Driver of instinctive and primitive urges

Demands immediate gratification

The Unconcsious motivator of **libido** (sexual drive) and the aggressive drive (Thantos)

Completely selfish and does not consider others

EGO

Based on the reality principle

Develops within the first few years of life

Mediator between the demands of the ID and morals of the superego

Responsible for the development of a balanced personality

The component of the personality considered one's true self

SUPEREGO

Based on the morality principle

The last structure to develop

Informs us of the obligations and expectation in society

Develops through the process of socialisation, family and culture (by 5 years)

Responsible for the sense of guilt and shame

Aligns to the preconscious

The diagram highlights key features of each structural component:

The **id** is the driver of our instinctive and primitive urges and has no time to wait for needs or desires to be met, hence it is based on the pleasure principle. The id is brought into line through socialisation and development of the ego and superego. However, where the id is the prominent component, the dominant personality characteristics can be impulsiveness, selfish, reckless, disorganised and often lacking morals. In young children this often displayed in aggressive behaviours, inability to reason with peers and in extreme cases may result in Oppositional defiant disorder (ODD) or conduct disorders (CD). Characteristics of the controlling id in the adult may result in narcissistic personalities or where the adult has previously met the diagnostic criteria of conduct disorder as a child, an adult may be diagnosed as adult antisocial personality disorder (ASPD).

The **super-ego** is the only component within the structure that considers whether something is right or wrong, hence being the driver of morals and principles. It is often referred to as our conscience. If the Super-ego is the dominant component, it often results in personality characteristics such as being very strict, overcontrolling, rigid and often neurotic. The dominance of the super-ego is also responsible for an individual's sense of guilt in comparison to the weak super-ego which can result in abnormal psychopathology where individuals are more susceptible to developing depression, anxiety, OCD to mention a few.

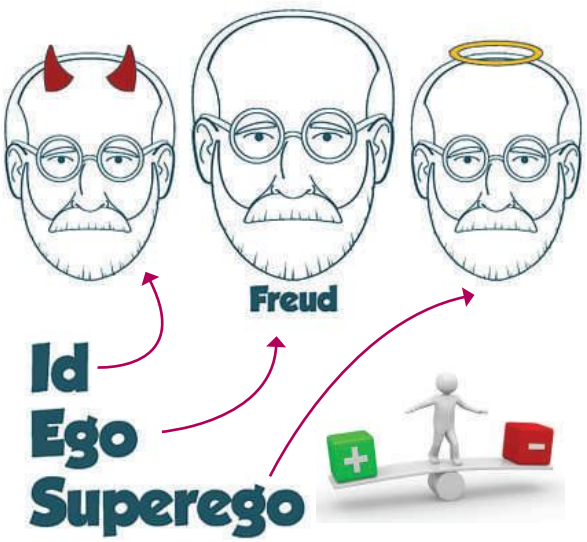


Figure 1.1.4: Cartoon depiction of Freud's Id (with the horns), ego (with the halo) and the superego keeping the id and ego in balance.

The **ego** is the rational part of our personality and is responsible for mediating between the instinctual desires and wish for instant gratification of the id and the requirements of the superego to be moral and uphold the expectations and rules of society. The development of a healthy personality relies on the ego being the dominant component of the structure.

According to Freud, the id and superego are in constant conflict based on their opposing demands which often results in a sense of anxiety or threat to the ego. The ego resolves this by unconsciously utilising **defence mechanisms** which help to protect the ego from the unpleasant emotions and distress.

Defence mechanism	Description	Example
Repression	Threatening memories or thoughts are pushed to the unconscious	Not remembering trauma-based experiences from childhood
Regression	Reverting to a childlike state when confronted with an overwhelming or unmanageable situation	Throwing a tantrum or slamming doors because you don't get your own way
Projection	Attributing your own unacceptable feelings and thoughts onto others as if they own them and not you	Accusing your partner of cheating because you have and knowing they haven't
Denial	Refusing to accept or acknowledge the reality of a situation	Continuing to spend money despite being in debt
Displacement	Redirecting feelings and actions onto a substitute target	Taking your frustration of your parents out on your friends or siblings
Rationalisation	Justifying unwanted outcomes with excuses or faulty reasoning	The teacher did not cover the material on the exam
Sublimation	Replacing unacceptable feelings with socially acceptable behaviours	Being aggressive on the sport field

Table 1.1.1: Defence mechanisms.

CHECKING FOR UNDERSTANDING

Scenario	Defence mechanism
Jo is finding it hard to see the instructions on labels but refuses to wear their glasses.	
Charlie came home from work angry and has slammed every door in the house.	
Brooklyn has decided to join the boxing club to deal with their anger issues.	
A soldier who has returned from war has no recollection of many events.	
Telling everyone you failed the test because you were busy studying for 3 different tests at the same time.	
River accuses the salesclerk of being racist and complains about 'them people'.	
Kym throws their hockey stick away every time they miss a goal.	

Freud suggested that we all use defence mechanisms as a strategy for reducing threatening and anxiety provoking emotions and temporarily can serve us well. However, when defence mechanisms are used excessively, they can be counter-productive in the development of a healthy personality.

HELPFUL ONLINE RESOURCES

Follow this link to read an amusing review of Freud's defence mechanisms: https://tinyurl.com/put97kpn

CONCEPT 3

Freud believed that childhood experience plays a significant role in shaping personality and hence our behaviour as adults. This led to the development of Freud's most controversial and criticised theory of personality, ***psychosexual development***. Freud outlined five developmental stages which are focused on different erogenous zones that are pleasure seeking. Each stage is unique, and should a child become over or under gratified it would cause them to become **fixated** which results in maladaptive behaviours as adults and prone to mental illness. The table below summarises the five psychosexual stages and potential fixations associated with each stage.

FREUD'S PSYCHOSEXUAL STAGES

Psychosexual stage	Erogenous zone	Focus	Fixation
Oral stage (Birth - 18 months)	Mouth	Feeding and weaning	Over/under eating, smoking, nail biting, excessive talking.
Anal stage (18 months - 3 years)	Anus	Toilet training	**Anal expulsive** - messy, over shares **Anal retentive** – obsessively tidy and orderly, rigid, authoritarian.
Phallic (3/4- 7years)	Genitals	Sexual identification Oedipus complex Electra complex	Narcissistic behaviour, exhibitionist, vanity, compulsive sexual behaviour, aggressive.
Latency stage (6/7 years – puberty)	Dormant sexual urges	Learning, same sex relationships	Inability to form fulfilling relationships as an adult, immaturity.
Genital stage (puberty +)	Genitals	Intimate relationships	NIL

Table 1.1.2: Freud's Psychosexual stages.

ORAL STAGE

Pleasure comes from a focus on the mouth and involves the process of feeding and weaning. Fixation is thought to occur due to over or under stimulation which results in a range of maladaptive behaviours as an adult, otherwise known as an Oral personality. Oral fixations are attributed to a range of psychological disorders such as drug and alcohol abuse (addiction), eating disorders and other behavioural obsessions seeking constant oral stimulation such as smoking, nail biting, over/under eat and often engaging in sarcasm. Depending on when the fixation occurs, oral personalities tend to be either optimistic, generous, and gregarious or aggressive, ambitious, and selfish, the latter demonstrating the **id** being the dominant component. (Definition of oral personality | Dictionary.com, 2021)

ANAL STAGE

During the **anal stage**, the focus is on the anus and pleasure comes from defecating and learning to control the bowels and bladder. Fixation can result

from harsh or lax toileting from the caregiver and can have longer term implications for the child in adulthood. Harsh potty training can result in the child developing an **anal-retentive** personality which tends to become obsessively tidy, orderly, and rigid. As a young person, they are often considered to have perfectionist traits and may be more susceptible to OCD and other anxiety-based disorders as an adult. An example of harsh toilet training may occur where a child is made to sit on the potty until they have satisfied the parent that they have performed satisfactorily, i.e., they have emptied their bowels and/or bladder or perhaps the child has been yelled at for defecating on the floor and told what they have done is disgusting.

On the other hand, when a caregiver has been too lenient with toilet training, a child may develop an **anal-expulsive** personality. The anal-expulsive adult tends to be messy, disorganised, often rebellious. An example may be where a child has lost control of their bowels or bladder on the floor and the parent has assured the child it is ok but has not rushed to clean it up, or perhaps allows the child to run around the home without a nappy or pants and being free to toilet whenever and wherever it happens to occur. Freud believed that the nature of the conflict during the experience of toilet training had a direct influence on the future adult's relationship with authority.

THE PHALLIC STAGE

During the phallic stage, focus is on the genitals and children become aware of the anatomical differences between male and female genitalia. Freud believed that during the phallic stage conflict occurs as the child experiences a desire for their parents' affection. This phenomenon is known as the **Oedipus complex**. Boys unconsciously view their father as competition for the mother's affection as it is obviously different to the type of affection given between the mother and son. This conflict causes jealousy and resentment for the same sex parent and boys then fear their father as they believe they will be castrated as punishment for striving for their mother's affection and the desire to replace their father. Boys believe that the female's penis has been

Figure 1.1.5: Picture demonstrating subtle indication of the Oedipus complex.

removed as punishment and serves as a warning for boys to learn to suppress their desire for the mother.

Freud believed that females experience a similar conflict referred to as the **Electra complex** whereby the daughter has the desire for her father and wishes to remove the mother to establish the relationship between the daughter and father. Freud believed that these feelings and desires caused daughters to experience anxiety due to the conflicting desire of the Id and morals of the Superego. At one stage, Freud theorised females would experience penis envy and blame the mother for them not providing them with one which caused further resentment. However, Freud rejected this latter term, stating that the feminine Oedipus complex is not the same as the male Oedipus because, "It is only in the male child that we find the fateful combination of love for the one parent and simultaneous hatred of the other as a rival" (Laplanche et al 1973).

Fixation in the phallic stage tends to present personality traits such as exhibitionist, vanity, narcissistic, controlling and occasionally compulsive sexual behaviour. Females fixated in the phallic stage are thought to seek out older men for romantic relationships, can be flirtatious and seductive. Successful completion of the phallic stage is where the child learns to identify with the same sex parent meaning they internalise and replicate the behaviours and characteristics of the same sex parent; this is known as a process of **identification**.

Freud suggested that the desire for the opposite sex parent is rooted in the instinctive and primitive

HELPFUL ONLINE RESOURCES

You can read more on the Oedipus and Electra complex here: https://tinyurl.com/s4539mps

https://tinyurl.com/2cw99jay

Further reading on Psychoanalytic perspectives on same sex relationships can be found here: https://tinyurl.com/tber7xwr

urges of the **id**, however, the **super-ego** attempts to suppress the desires leaving the ego to resolve the conflict by means of **repression** to ensure that the healthy development at this stage occurs.

Once a child progresses through the phallic stage, they experience a stage of dormant sexual urges according to Freud, known as the **Latency stage**. Around the age of six years old until puberty, the focus is on the development of same sex relationships, engaging in hobbies and intellectual interests. Children learn to navigate their position in society developing social skills and values from their peers. The development of self-confidence is often crucial in this stage in addition to beginning to form an understanding and acceptance of their gender role and sense of identity as an individual. Freud did not believe that fixation in the latency stage was possible given the dormant sexualised energy. However, his daughter Anna Freud proposed that fixation can occur in the latency stage which due to the delayed completion of the Oedipus complex. As a result, fixation would present as children struggling with peer relationships, rebelling against authority and parents with the potential of demonstrating early delinquent behaviours. Due to the already developed super-ego, the child begins to develop more complex emotions such as guilt and shame. As adults the presenting personality challenges would arise in having difficulty in developing meaningful and lasting relationships.

The final psychosexual stage that children progress through is the **genital stage** which starts around puberty where the focus is on the genitals. The genital stage sees the re-emergence of sexual urges which is directed into forming intimate relationships with opposite sex.

Try to remember the five Psychosexual stages using the acronym OAPLG: Old Age Pensioners Love Guinness or Golf!

Figures 1.1.6: Old Age Pensioners Love Guinness.

Figure 1.1.7: Old Age Pensioners Love Golf.

EVALUATION

Freud's theory has long been known for being both widely misunderstood and controversial, yet it is still the key theory presented in most undergraduate and post-graduate programs to provide underpinning knowledge of Psychodynamic theory.

Whilst controversial, Psychodynamic theory continues to influence and shape psychological science with wider application to a variety of disciplines such as developmental psychology, social psychology, sociology, and neuroscience. The principles of psychoanalysis are the underlying basis for psychotherapy and talking based treatments today. The Psychodynamic approach has been further developed by Neo-Freudians such as Carl Jung, Melanie Klein, Alfred Adler, Eric Erickson, and Anna Freud (daughter of Sigmund Freud). They tend to agree with Freud regarding the role of the unconscious and early experiences shaping personality but apply their own unique perspectives with less emphasis on sexual drives and more focus on socio-cultural implications regarding the development of personality.

From a scientific perspective Freud's theory cannot be **empirically tested** due to the subjective nature of his work. Most of Freud's theory was based on case studies such as Little Hans and Anna O, meaning there is no means to test the reliability of the data collected and it may be further compromised by interpretation bias. The retrospective data (accounts of one's experience) also compromise the reliability of the data. Whilst case studies provide unique opportunities to study complex human phenomenon, the subjective nature of his studies and unique method of conducting his research makes it impossible to apply **generalisations** to the wider population. Freud's theory of personality and psychopathology is biologically deterministic at the expense of excluding social and cultural factors. In essence we have no choice to become what we are based on pre-determined genetic vulnerabilities.

While psychodynamic theory has historically been challenged based on lacking scientific rigor, some concepts have strong empirical support such as the existence and importance of the unconscious. Robinson & Gordon, 2011, suggest that evidence for the importance of unconscious influences is so compelling that it has become a central element of contemporary cognitive and social psychology. Psychodynamic and social cognitive approaches to personality assessment converge now more so than at any time in the history of experimental psychology.

HELPFUL ONLINE RESOURCES

You can read more about Neo-Freudians here: https://tinyurl.com/4ayjx5k5

SCIENCE AS A HUMAN ENDEAVOUR: REAL WORLD APPLICATION

Eric Kandel (1998) developed neuropsychoanalysis, an integration of psychodynamic and neuropsychological concepts that has enhanced researchers' understanding of numerous aspects of human behaviour and mental functioning (Solms & Turnbull, 2011). Some of the first efforts to integrate psychodynamic principles with findings from neuroscience involved sleep and dreams, and contemporary models of dream formation now incorporate principles from both domains (Levin & Nielsen, 2007). Neuroimaging techniques such as functional magnetic resonance imagery (fMRI) have begun to play an increasingly central role in this ongoing psychoanalysis–neuroscience integration as well (Gerber, 2007; Slipp, 2000). (Psychodynamic Perspective | Abnormal Psychology, 2021)

Stretch and challenge activities

How might bipolar disorder be explained using this approach?

Development and Application: How has the Psychodynamic approach been applied to produce innovative solutions to modern approaches in understanding psychopathology?

1.2 CONCEPTS OF PERSONALITY HUMANISTIC APPROACH

- **Describe the humanistic approach to personality.**
- **Discuss the strengths and weaknesses of Maslow's humanistic approach.**

2022 Subject Outline | Stage 2

Humanistic Psychology

Humanistic psychology is a positive, proactive perspective of psychology that came about during the early 1950s as a reaction to the work of psychoanalytic researchers such as Freud and Jung, and behaviourist researchers such as Skinner who had dominated psychological research in previous decades. Psychoanalysis as we have just learned was focused on unconscious motivations that shape our behaviour, whereas behaviourism focused on learning through classical and operant conditioning to explain how and why people behave the way they do. Refer to Topic 5 for more information about behaviour theory.

Humanist researchers felt that both psychoanalysis and behaviourism were too pessimistic. Instead of focusing on psychopathology and what goes wrong with people, Maslow (1943) formulated a more positive account of human behaviour which focused on what goes right. He was interested in human potential, and how we fulfill that potential. Abraham Maslow and Carl Rogers were interested in looking at the whole individual and researched into concepts such as free will, self-efficacy, personal choice and self-actualization. The humanistic approach strives to help people fulfill their potential and maximize their well-being, rather than focusing on the most tragic of emotions or overcoming dysfunction as a result of what was wrong.

We don't need to think of these schools of thought as competing with one another. In fact, there are many other ways of looking at psychology, including a biological perspective as we will see in the Trait approach shortly. Each branch of psychology has contributed significantly and differently to our understanding of how people think, feel and behave. Which perspective you personally subscribe to is up to you.

Figure 1.2.1: Maslow's hierarchy of needs shows that everyone can reach their full potential, just like a tiny acorn can grow into a mighty oak tree.

ABRAHAM MASLOW (1908 – 1970)

How is that a tiny acorn can grow into a massive oak tree? If you had to answer this question without conducting any research, your first response is likely to include sunshine, water, nutrients, soil, care, time and a strong root system holding the tree firmly in the ground.

Maslow was mainly concerned with an individual's innate drive towards achieving their highest level of capability.

Figure 1.2.2: Abraham Maslow (1908 - 1970).

To come up with his approach to understanding the personality of individuals, Maslow studied historical figures he believed to be exceptional in their careers. He studied the personalities of people he considered were healthy, creative and productive, including Abraham Lincoln, Thomas Jefferson, Albert Einstein and Eleanor Roosevelt. He also studied the personalities of some of his own colleagues and contemporary leaders he thought had exceptionally good mental health.

What he observed was that people he considered self-actualised, that is they were reaching their potential and remaining mentally healthy, shared similar characteristics.

CHARACTERISTICS OF SELF-ACTUALISERS

Maslow identified common characteristics such as being concerned for others, accepting themselves, creativity, loving, compassionate and open in those he studied. Self-actualised people tended to have a good sense of humour, the ability to develop close friendships and they found enjoyment and mission in their work.

Maslow found people often described peak experiences during which they felt such an intense degree of satisfaction that they seemed to transcend themselves. They actively engaged in activities that would bring about this feeling of unity and meaningfulness. Despite this fact, most of these individuals seemed deeply rooted in reality, and were active problem-seekers and solvers. They developed a level of acceptance for what could not be changed and a level of spontaneity and resilience to tackle what could be changed. He believed that we are all born with the potential to grow and achieve optimal health and functioning, just like the acorn.

HIERARCHY OF NEEDS

To explain how humans grow to reach their potential, just like the oak tree, Maslow developed a hierarchy of needs from the most basic physical needs to the most advanced needs of self-actualisation. The hierarchy of needs, much like the healthy food chart is shown as a pyramid to represent that we need more of the things at the bottom, and less of the things at the top, but is also hierarchical. Beginning at the bottom, Maslow believed that people's successful fulfilment of the lower levels was required in the development of personality.

First physiological needs must be met, before safety needs, then the need for love and belonging, esteem and finally self-actualisation.

Maslow categorised these areas of need into deficiency needs and growth needs. Much like the oak tree, if there is a deficiency in the basic needs, then the individual will seek to repair or return to that level until it is satisfied.

Maslow believed that the lower four levels of physiological, safety, love and belong and esteem were deficiency needs, without which an individual is unable to thrive.

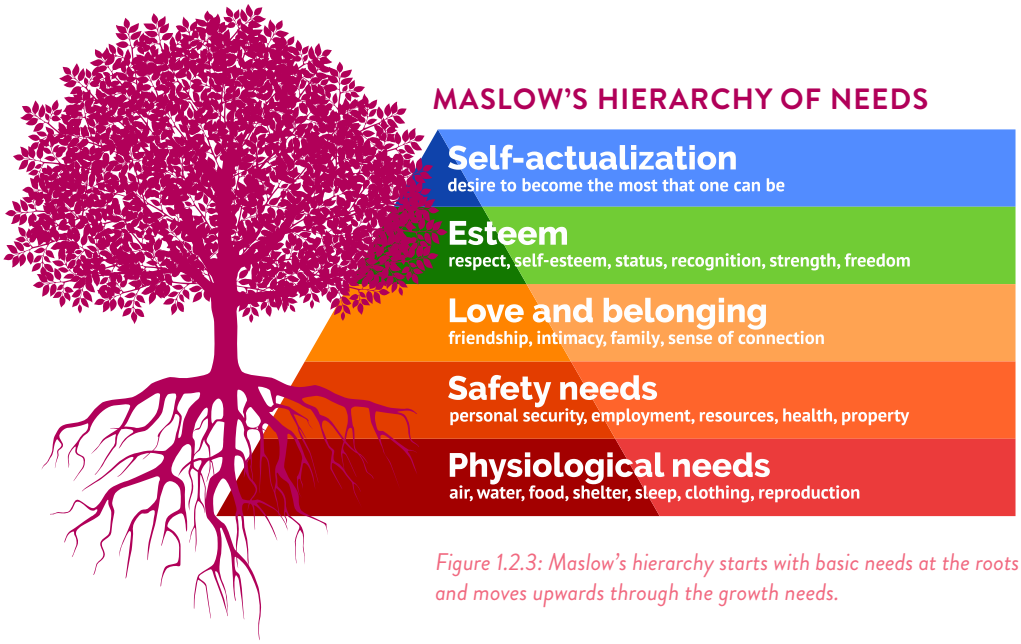


Figure 1.2.3: Maslow's hierarchy starts with basic needs at the roots and moves upwards through the growth needs.

CHECKING FOR UNDERSTANDING

Think about yourself for a moment, then think about your personal wellbeing and mental health in relation to school.

Describe your happiness, engagement and wellbeing in relation to your schoolwork.

Now think about your personality. What words would you use to describe your personality when interacting with friends, other students in your classes, and your teachers?

Consider your personality when you are tired, stressed or unwell. How would you describe your personality under these conditions?

Apply Maslow's hierarchy of needs to the personality characteristics you have described in the 2 previous questions. Explain the links between the evidence of your changes in personality to the levels of Maslow's hierarchy.

PEAK EXPERIENCES

Maslow suggested that one of the best ways to think of peak experiences is to think of the most wonderful experiences of your life—those moments of ecstasy and complete and utter happiness. You might experience such enjoyment when being creative, whether that is cooking, painting, reading a book, or playing music or appreciating nature on a bushwalk, stargazing or watching a sunset. Peak experiences may occur during religious experiences, playing sport, exercising and achieving important goals either by yourself or collaboratively with others. Altruistic behaviours such as helping another person in need or overcoming a barrier to achieve something yourself can all bring about the thoughts and feelings associated with peak experiences.

HELPFUL ONLINE RESOURCES

Listen to Maslow talk about peak experiences:
https://tinyurl.com/2x8ndt6f

Maslow's expanded Hierarchy of Needs:
https://tinyurl.com/5jkrz7cy

CHECKING FOR UNDERSTANDING

Choose a 'peak experience' you have had or might have in the future.

Describe how this peak experience felt, or might feel in terms of your thoughts, feelings and behaviours during the experience.

THE EXPANDED HIERARCHY OF NEEDS

Ever interested in continuing his research and theories of personality, Maslow's original (1943, 1954) five-stage model has been expanded to include cognitive and aesthetic needs (Maslow, 1970a) and later transcendence needs (Maslow, 1970b).

Transcendence needs – a person is motivated by values which transcend beyond themselves (altruism, mystical experiences, spiritual experiences, service to others, religious faith)

Self-actualisation needs – realising personal potential, seeking personal growth and peak experiences

Aesthetic needs – appreciation and search for beauty in the world around

Cognitive needs – seeking knowledge and understanding, curiosity, exploration and meaning

Esteem needs – 2 categories of self esteem 1. Esteem in oneself (dignity, achievement, mastery, independence) 2. The need to be accepted and valued by others (status, recognition, prestige)

Love and belonging needs – friendship, intimacy, trust, acceptance, giving and receiving affection, affiliation as part of a group (family, work, friends, hobby groups)

Safety needs – protection from harm, protection from the weather, security, stability, freedom from fear and bullying

Physiological needs – air, food, drink, shelter, warmth, sex, sleep

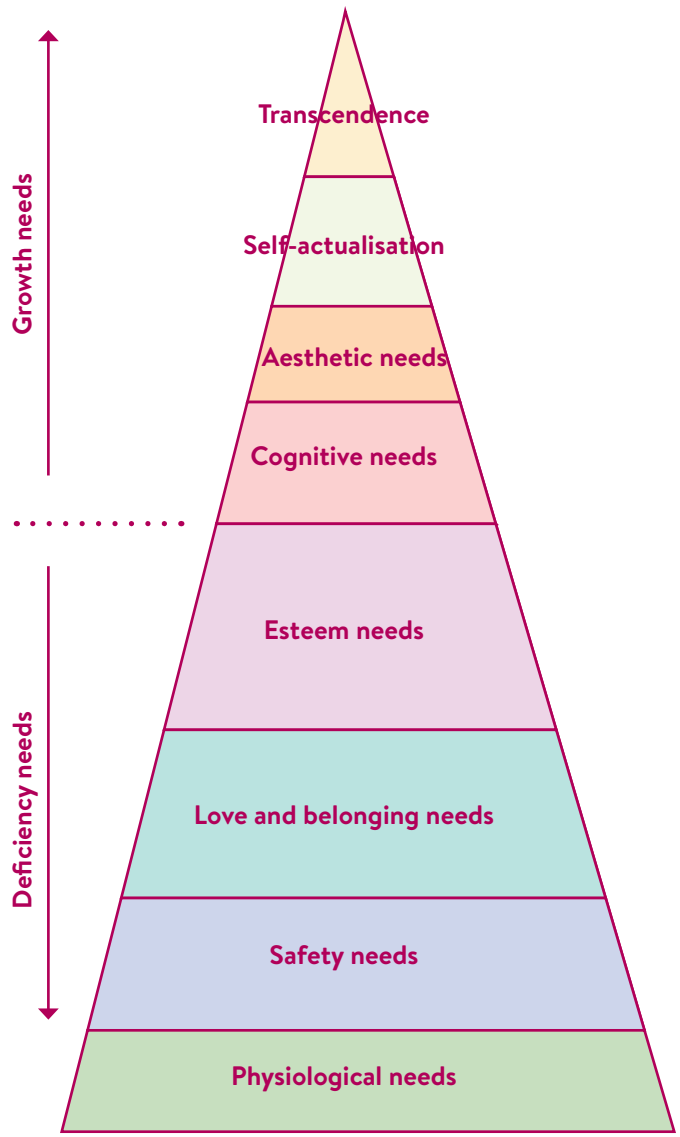


Figure 1.2.4: Maslow's expanded Hierarchy of needs includes 3 additional levels.

BEHAVIOURS THAT LEAD TO SELF-ACTUALISATION

Although people self-actualise in their own ways, they tend to share certain characteristics. Self-actualisation does not mean perfection, in fact Maslow theorised that only 2% of people will actually achieve self-actualisation, so is interesting to note that this theory is based on a concept that most people will never achieve. Despite the high level of expectation it is important to remember the basis of the theory, which is that people are on a journey towards self-actualisation (they may just

never get there) The following behaviours are commonly seen in people with actualising tendencies.

- Living life like a child – appreciation, fun, full absorption and concentration on what you are doing.
- Being open to trying new things instead of sticking to known or safe paths.
- Listening to your own feelings of right and wrong, and evaluating experiences for yourself rather than being influenced by tradition, others, peers or people in authority.
- Being honest and avoiding 'game playing' or 'manipulative behaviours'.
- Being prepared to challenge other thinking and potentially being unpopular if your views don't align with the majority.
- Taking responsibility and working hard.
- Recognising when you are in the wrong, identifying when you are being defensive apologising and having the courage to overcome defensiveness.

CRITICAL REFLECTION

Whilst as a high school student Maslow would not consider you to be close to self-actualising yet, reflect upon the behaviours described above. Which of these behaviours do you identify in yourself? Which of these behaviours are an area for development for you?

CRITICAL EVALUATION

The most significant limitation of Maslow's research is his chosen research method. Maslow read biographies and writings of 18 people he admired, respected and believed had self-actualised. From these historical and contemporary people, he developed his list of qualities that these people had in common and opposed to most other people he had observed. His list of people primarily included educated white males who were highly influential. Although Maslow (1970) did study self-actualised females such as Eleanor Roosevelt and Mother Theresa, they comprised a small portion of his sample.

Another criticism of Maslow's hierarchy of needs is the concept that the lower needs must be met before a person can move through the deficiency needs and up to the growth needs. Consider cultures or countries where large numbers of people live in poverty, it is clear that people are still capable of higher-level needs such as love, belonging, despite not having physiological needs met.

Many creative people such as authors and artists including Rembrandt and Van Gogh lived in poverty throughout their lifetime, yet it could be argued based on the definition of self-actualisation that their contributions to the artworld meant that they did self-actualise.

Figure 1.2.5: Starry Night is one of the most recognised pieces of art in the world by artist Vincent Van Gogh.

DOES MASLOW'S HIERARCHY OF NEEDS APPLY EQUALLY ACROSS CULTURES?

A relatively recent study by Tay and Diener (2011) tested Maslow's theory by analysing the data of 60,865 participants from 123 countries, representing every major region of the world. The survey was conducted from 2005 to 2010.

Participants answered questions about six needs that closely resemble those in Maslow's model: basic needs (food, shelter); safety; social needs (love, support); respect; mastery; and autonomy. They also rated their well-being across three different measures: life evaluation (a person's view of his or her life as a whole), positive feelings (day-to-day instances of joy or pleasure), and negative feelings (everyday experiences of sorrow, anger, or stress).

The results of the study support the view that universal human needs appear to exist regardless of cultural differences. However, the ordering of the needs within the hierarchy was not correct.

"Although the most basic needs might get the most attention when you don't have them," Diener explains, "you don't need to fulfill them in order to get benefits [from the others]." Even when we are hungry, for instance, we can be happy with our friends. "They're like vitamins," Diener says about how the needs work independently. "We need them all."

DIFFERENT PERCEPTIONS OF SELF-ACTUALISATION

Consider the images on the next page. On a RAW Impact humanitarian trip to Cambodia to build houses, Kelsey observed people living in conditions vastly different to what we are accustomed to in Australia. High school students spent 2 weeks building houses from bamboo, traipsing several kilometres through the mud to get to work each day. They slept one night in the local community where the family willingly gave up their beds and slept underneath on the ground for the night to make the Australian visitors feel welcome. The children were extremely grateful to go to school each day, and ever so grateful for the Australian teenagers spending time with them. The children taught the Aussies how to play "kick the thong"

HELPFUL ONLINE RESOURCES

Read more about Tay, L., & Diener, E. (2011).research here: Needs and subjective well-being around the world: **https://tinyurl.com/24wuvyr7**

which was essentially a game of soccer, but with a thong. The children and the adults were observed to be happy, content, satisfied, with a great sense of appreciation, community spirit and generosity for their visitors. How is this the case, when so many families live in poverty, without shelter and are relying on the support from overseas volunteer agencies to build them bamboo homes?

Figure 1.2.6: Living in poor conditions is not a determinant of self-actualisation and happiness.

CHECKING FOR UNDERSTANDING

Critically evaluate Maslow's research by discussing the strengths and weakness of Maslow's humanistic approach.

Compare Maslow's humanistic approach to explaining personality development with Freud's psychodynamic theory of personality. Outline differences and identify the strengths of each theory.

Conduct some further research into the people whom Maslow included in his research, then consider the bias in Maslow's sample from a gender, ethnicity, social class point of view. Was Maslow's sample representative of his research population?

Critique Maslow's hierarchy of needs on the basis that lower needs must be met before progressing to the higher needs. To what extent do you agree with this notion? Provide examples (you may refer to the Cambodia example or use your own examples) to support or refute your argument.

APPLICATION OF MASLOW'S HIERARCHY OF NEEDS IN THE WORKPLACE

How to meet needs in the workplace	How managers can motivate employees
Self-actualisation is about how you think about yourself, your personal job satisfaction, opportunities for creativity and realising our potential. Transcendence would include supporting others to succeed.	**Self-actualisation:** Create opportunities for career development, provide a challenging environment that enables critical and creative thinking, innovation and entrepreneurship to flourish.
Esteem needs reflect people's need for recognition that they are doing a good job. These needs can be met by gaining respect and acknowledgement from peers and leaders.	**Esteem needs:** Recognise achievements publicly. Provide incentives that play to people's strengths and are rewarding.
Belonging needs /social needs. At work people typically want to belong to a group or team. These needs can be met through positive working relationships, teamwork, group projects, and workplace culture which creates a workplace where people want to stay.	**Belonging needs:** arrange social events, encourage and reward teamwork and team goals being achieved.
Safety needs can include things like job security, sick pay, protective clothing, physical safety at work, psychological safety at work.	**Safety needs:** create permanent, secure jobs, provide a safe work environment free from physical danger, harassment and bullying.
Physiological needs are the basics you need at work such as food and shelter.	**Physiological needs:** provide sufficient lunch and rest breaks, pay a salary that enables people to provide for their family.

Using the example of motivation in the workplace in the previous table, complete the table below, but apply your learning to a new scenario. How could teachers, leaders, Principals and/or parents use Maslow's Hierarchy of Needs to motivate students to achieve their potential at school?

Link to the page **203 (Topic 3.4)** **to read more about Motivation theory as it applies in the workplace.**

How to meet needs of students in a school	How schools can motivate students to achieve
Self-actualisation:	**Self-actualisation:**
Esteem needs:	**Esteem needs:**
Belonging needs:	**Belonging needs:**
Safety needs:	**Safety needs:**
Physiological needs:	**Physiological needs:**

CARL ROGERS (1902 - 1987)

Carl Rogers (1959) believed similarly to Maslow, that humans have one basic motive, that is the tendency to self-actualise. In other words, to live up to our potential. Like Maslow, and being a humanistic theorist, Rogers believed that every person could achieve their goals, wishes, and desires in life.

Whereas Maslow created a hierarchy of needs to explain how people achieve self-actualisation, Rogers theorised that for a person to 'grow' and reach their potential, they need an environment that provides them with **acceptance** (being seen with

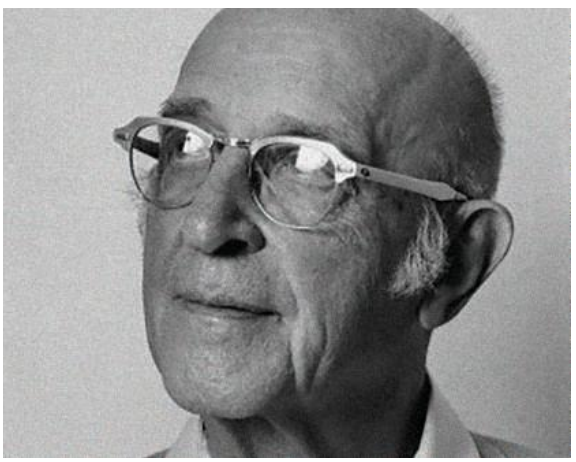


Figure 1.2.7: Carl Rogers (1902 – 1987).

unconditional positive regard from others), and **empathy** (being listened to and understood by others). These two concepts formed the basis for Rogers' argument that for a therapist/patient relationship to be effective, it must include an intentional relationship built on mutual trust and respect. Known famously for his **Person-centred therapy** he advocated for unconditional positive regard, use of a reflective therapeutic technique and a more equal relationship between the therapist and the client.

Without acceptance and empathy, relationships and healthy personalities will not develop as they should. Much like our earlier analogy of the tree that will not grow without sunlight and water, Roger's theory proposes that a flower will grow to its full potential if the conditions are right but won't if constrained by its environment. Relating this to humans: people will flourish and reach their potential if their environment is supports them to.

CRITICAL AND CREATIVE THINKING ACTIVITY

Consider the lyrics from one of rap artist Tupac's poems.

Discuss what you think the poem means?

Discuss the analogy of the rose growing out of the concrete. What does this poem say about nature v nurture and the right conditions for flourishing?

What would Maslow or Rogers have to say about this poem?

Did you hear about the rose
That grew from a crack in the concrete?
Proving nature's law is wrong
It learned how to walk without having feet
Funny it seems but by keeping its dreams,
It learned to breathe fresh air.
Long live the rose that grew from concrete
When no one else even cared.
TUPAC AMARU SHAKUR, 1971 – 1996

SELF-CONCEPT

Carl Rogers believed that people are inherently good and creative. Humans are not born bad.

They behave badly, are destructive or unhappy only when they develop a poor self-concept. One of the key concepts associated with Carl Rogers beliefs about self-concept relates to what he called a state of **congruence.**

According to Rogers (1959), we want to feel, experience and behave in ways which are consistent with our self-image and which reflect what we would like to be like, our ideal-self. The closer our self-image and ideal-self are to each other, the more consistent or congruent we are and the higher our sense of self-worth (self-esteem).

OUR SELF-CONCEPT CONSISTS OF 3 "SELVES"

Ideal self This is the person we would like to be. It consists of our goals and ambitions in life and can change. Our ideal self in childhood is not necessarily the ideal self in our teenage year or later in life.

Self-image How we see ourselves, which is important for good psychological health. Self-image includes our physical characteristics, personality traits and roles in society. On a simple level, we might perceive ourselves as a good or bad person, beautiful or ugly. Self-image affects how a person thinks, feels and behaves in the world.

Self-worth (also known as self-esteem) How much we like, accept and value ourselves. This can be impacted by how you compare yourself to others, and how others see our behaviours. Rogers believed that we need to be regarded positively by others and we need to feel valued, respected, treated with affection and loved. Positive regard is to do with how other people evaluate and judge us in social interaction and plays a large role in how we feel about ourselves.

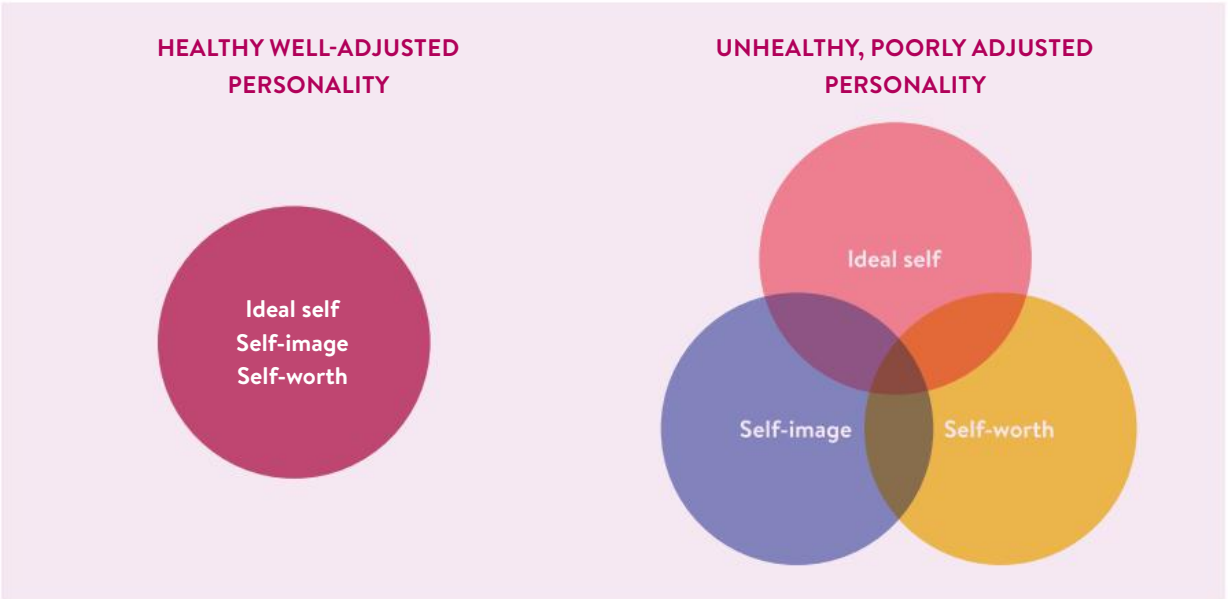


Figure 1.2.8: According to Rogers, a well-adjusted personality is the result of an individual holding similar views of their ideal self, self-image and true self. A poorly adjusted personality results from mismatch between the self-image, ideal self and self-worth, causing self-esteem to suffer, and anxiety and defensiveness to develop.

Self-worth may be seen as a continuum from very high to very low

low self-worth ⟷ **high self-worth**

- avoid challenges
- difficulty accepting life may be unhappy at times
- guarded with people
- defensive with people

- confident
- positive feelings about themselves
- accepts failure and life's unhappiness at times
- is open with people

Figure 1.2.9: Perception of our own self-worth can impact on self-esteem.

CHECKING FOR UNDERSTANDING

Examine the two images on page 28. Using a concept from Carl Rogers Humanistic theory, explain what these images are implying.

CONGRUENCE

Your self-concept is not always perfectly aligned with reality. When it is aligned, your self-concept is said to be "congruent." When there is a mismatch between how you see yourself (your self-image) and who you wish you were (your ideal self), your self-concept is "incongruent." This incongruence can negatively impact your self-esteem.

Rogers believed that incongruence could begin as early as childhood. Parents who love their children unconditionally nurture congruence. These children experience love and acceptance (even when they are naughty) and believe that people will love and accept them for who they are, without needing to act in ways that are not natural for them. Have a think about your childhood and whether you were ever bribed to be "good at Nanna's" house – this sends a message that Nanna will only love you if you are well behaved, rather than "Nanna will always love you". Expecting children to earn love or live up to parent's expectations (whether that is through behaviour, achievement at school, sport, music, or in their later careers) creates experiences which send a message, that love is conditional. This can leave children feeling unworthy of their parent's love, and therefore create a mismatch between the ideal self and self-image and so lower self-worth.

Figure 1.2.10: Self-esteem can vary depending on how we feel about ourselves at any point in time.

UNCONDITIONAL POSITIVE REGARD

As a result of identifying that unconditional love is required in childhood for young children to flourish and develop a strong self-concept, Rogers recognised a basic need (much like Maslow) that people need to be regarded positively by others; we need to feel valued, respected, treated with affection and loved. Positive regard is about how other people evaluate and judge us in social interaction.

Unconditional positive regard is where parents, friends, partners, work colleagues, including therapists, accept a person for who they are. Positive regard is not withdrawn if the person does something wrong or makes a mistake. The consequences of unconditional positive regard are that the person feels free to try things out and make mistakes, even though this may lead to making it worse at times. People who are able to self-actualise are more likely to have received unconditional positive regard from others, especially their parents during childhood.

CHARACTERISTICS OF FULLY FUNCTIONING PEOPLE

Returning to the concept of self-actualising – Rogers referred to people who are continually working towards self-actualisation as "fully functioning".

- Fully functioning people tend to possess certain characteristics such as:
- Openness to experience
- Lack of defensiveness
- The ability to interpret experiences accurately

- A flexible self-concept and the ability to change through experience
- The ability to trust one's experiences and form values based on those experiences
- Unconditional self-regard
- Does not feel the need to distort or deny experiences
- Open to feedback and willing to make realistic changes
- Lives in harmony with other people.

People typically want to feel, experience and behave in ways which are consistent with our self-image and which reflect what we would like to be like, our ideal-self. As we prefer to see ourselves in ways that are consistent with our self-image, we may use defence mechanisms like denial or repression in order to feel less threatened by some of what we consider to be our undesirable feelings.

A person whose self-concept is incongruent with their real feelings and experiences will be defensive because the truth hurts.

CHECKING FOR UNDERSTANDING

Complete the following table

Key Concepts from Carl Rogers Humanistic Theory	Definition	Similarities to Maslow's Hierarchy of Needs	Similarities or differences to Psychodynamic Theories
Self-Concept			
Self-Image			
Self-worth			
Ideal Self			
Congruence			
Unconditional positive regard			
Fully functioning person			
Person-centred therapy			

Compare and contrast Carl Rogers' person-centred theory with Abraham Maslow's self-actualisation theory.

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SCHOOL ASSESSED TASK IDEAS:

Note: Each task should allow students to critically evaluate the humanistic approach by arguing a well-reasoned, coherent point of view using a range of evidence, concepts and theoretical perspectives and exploring the strengths and weaknesses of the approach.

1. **Persuasive Essay:** Is Maslow's hierarchy of needs still relevant today?

2. **Critical analysis:** Explain how Maslow and Roger's humanistic theories have informed different psychological perspectives about human personality. Explain and apply linkages between psychological ideas and real-life situations. Examples of real-life situations might include:
   - How people have responded to the Covid-19 pandemic
   - Student's motivation through high school
   - Work-life balance
   - Satisfaction in the workplace

3. **Organisational Psychologist Business Case:** Prepare a business case for an employer to show how Maslow's or Roger's humanistic theories could be applied to increase motivation:
   - Within a workplace
   - At school
   - At a sporting club

4. **Critically evaluate the statement:** Maslow argued that failure to have needs met at various stages of the hierarchy could lead to mental illness.

5. **Dinner party talk:** If Freud, Maslow and Eysenck were having dinner together and started talking about the personality development over time. What would they agree and disagree about? Evaluate the relevance and significance of each theorist's contribution to your understanding of personality.

1.3 CONCEPTS OF PERSONALITY TRAIT APPROACH

- Describe the trait approach of personality.
- Discuss the strengths and weaknesses of a trait approach.

2022 Subject Outline | Stage 2

How would you describe yourself in 4 words?

1. 2.

3. 4.

How would you describe your best friend or sibling in 4 words?

1. 2.

3. 4.

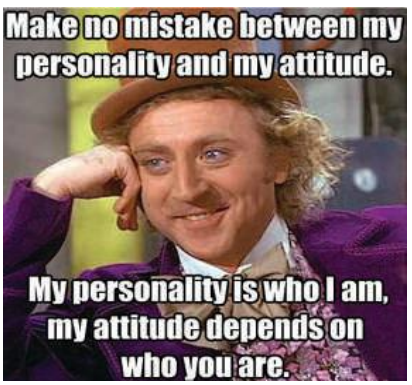


Figure 1.3.1: Personality traits are thought to be unchanging and stable.

We often describe people in terms of the characteristics that we associate with their behaviour or personal qualities, e.g., they are shy, conscientious, brave, trustworthy. Psychologists generally tend to use the term **personality** as a holistic term for personality traits or characteristics which develop over time and are influenced by our environment thus, they can be learned. **Temperament** on the other hand is biologically determined and is thought to exist from birth. Whilst there are different explanations and theories around the development of personality many researchers agree that there is a correlation between personality traits and temperament.

Like Freud, Eysenck believed that personality is genetically determined and developed **Trait theory** using a statistical technique known as **factor analysis**. Factor analysis involves reducing large amounts of data into categories and dimensions allowing the data to be simplified. Using this technique, Eysenck initially identified two specific personality dimensions: extroversion/introversion and neuroticism/stability.

As seen in Figure 1.3.2 on page 34, the dimension of **Extroversion-Introversion** links to sociable traits such as being out-going or reserved or shy, however, they also lie either in the Neurotic or stable domain. The neuroticism scale measures the stability of emotions. A stable introvert might avoid overly stimulated environments and choose a quiet and peaceful environment and feel calm and relaxed, whereas a neurotic introvert may be unsociable whilst also being moody and anxious. Likewise, a stable extrovert will enjoy the company of others engaging in conversation freely and with ease, whereas a neurotic extrovert may be on edge and come across as touchy or aggressive.

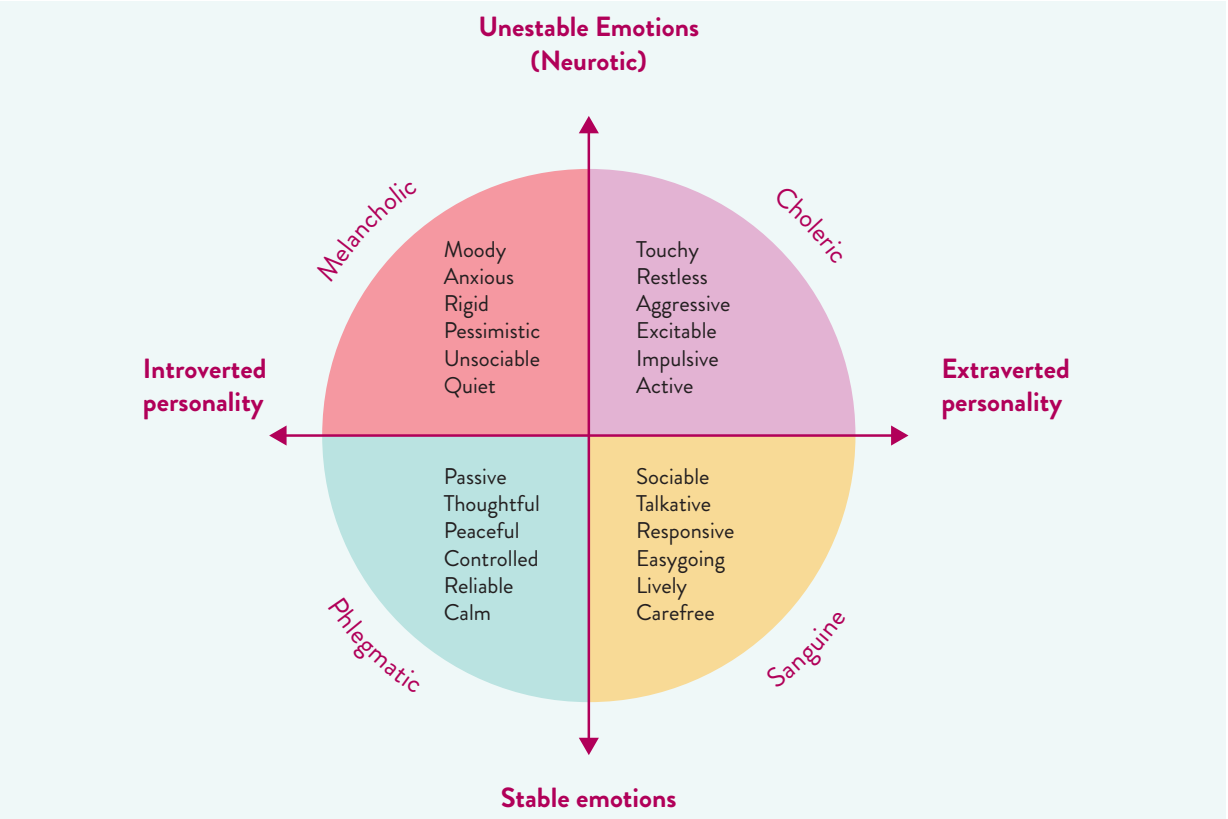


Figure 1.3.2: Eysenck described two factors to account for variations in our personalities extroversion/introversion and emotional stability/instability.

More recently researchers have identified a link between personality and activation of the ANS (autonomic nervous system) and suggest that extroverts thrive on higher levels of ANS stimulation which is provided during social interactions. This enables extroverts to stay within the stable dimension. Whereas introverts need less ANS activation to remain in the stable domain hence feeling more comfortable in solitude. Eysenck hypothesised that people higher on the instability scale are more likely to experience more frequent and rapid response from their SNS (somatic nervous system) leaving them more prone to neurotic disorders.

Neuroticism refers to the level of emotional stability. Individuals who are high on the neurotic dimension tend to be highly anxious and are more prone to mood disorders alongside heightened emotions. In contrast, individuals who are low on this dimension tend to be calm and emotionally stable. Eysenck believed that individuals tend to lie in the middle of the continuum with few people scoring high on one end. Individuals who score high on the continuum are likely to have personality traits that leave them susceptible to mental illness and personality disorders e.g., people who have OCD or experience phobias are more likely to be introverts whereas people who have poor impulse control and dissociative disorders tend to be extroverts.

Eysenck later added a third dimension, psychoticism characterized by aggression, impulsivity, aloofness, and antisocial behaviour, indicating a susceptibility to psychosis and psychopathic disorders. (APA Dictionary of Psychology, 2021). People who score high on this continuum tend to find it difficult to maintain stable relationships, are non-conformists, hostile and anti-social. In contrast people who score low tend to high impulse control—they are more altruistic, empathetic, cooperative, and conventional (Eysenck, Eysenck & Barrett, 1985, cited Trait Theory | Abnormal Psychology, 2021).

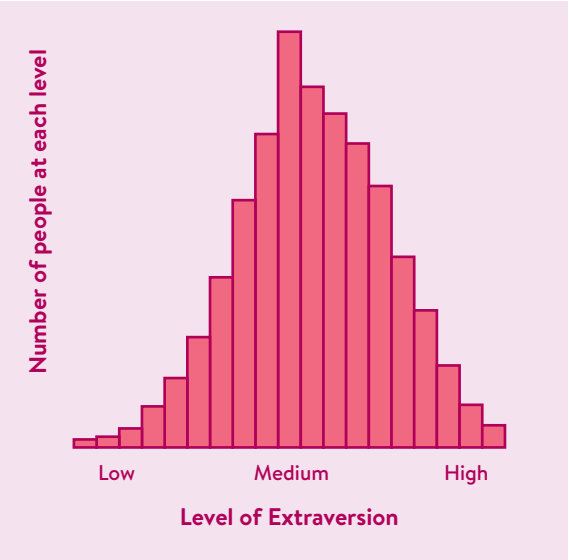


Figure 1.3.3: Distribution of Extraversion Scores in a sample. This figure shows that most people score towards the middle of the extraversion scale, with fewer people who are highly extraverted or highly introverted.

Critical evaluation of Eysenck's Trait theory:

+ Whilst the results of twin studies are conflicting there are many studies that show support for Eysenck's theory, particularly regarding the inherited aspects of personality traits.

+ Eysenck's theory is a good example of the biopsychosocial implications of personality development accounting for both nature and nurture given his acknowledgment for learning and socialisation.

+ The traits identified can be understood cross culturally

+ Eysenck developed a personality tool to assess personality known as the EPQ. The EPQ-BV(brief version) has good internal consistency, test-retest reliability, and concurrent validity.

− Behaviours may not be stable over time. Many longitudinal studies have shown that extroversion and neuroticism tend to reduce over time. Likewise, prevalence rates between men and women reduces as we age.

− Traits are not necessarily a good predictor of behaviour. People high on specific continuums do not necessarily develop the disorders correlated with those specific traits meaning the role of individual differences is largely at play.

STRETCH AND CHALLENGE ACTIVITIES

If temperament is genetically inherited, what would you expect to find in MZ (identical) and DZ (fraternal) twins?

Read the following article to see if this supports your answer. The Minnesota Study of Twins raised apart. https://tinyurl.com/6hvcx8xc

Movie time! **Three Identical Strangers**. This is a fascinating documentary about triplets separated at birth and their uncanny similarities.

The Five-Factor Model of Personality (FFM)

Proposed by McRae & Costa, FFM is the mostly widely accepted theory of personality by Psychologists to date. Given its name, the model proposed that personality traits can be classified into five main traits. Openness, Conscientiousness, Extraversion, Agreeableness and Neuroticism. The following acronyms will help you to recall these traits, hence the pictures. You may also find the song at the bottom of this page helpful as well as amusing.

OCEAN: O is for **openness;** C is for **conscientiousness;** E is for **extraversion;** A is for **agreeableness;** N is for **neuroticism.**

CANOE: conscientiousness, agreeableness, neuroticism, openness, and extraversion

Research has shown that the five traits identified by the model can be applied across cultures and that the traits stay relatively stable across time, even in adversity. As seen in the Figure 1.3.6, **openness** relates to an individual's sense of experience and wiliness to try new things. People scoring high in openness tend to be adventurous, willing to take risks, curious and creative whilst people scoring

Figure 1.3.4: Remember the acronym OCEAN.

Figure 1.3.5: Remember the acronym CANOE.

HELPFUL ONLINE RESOURCES

Follow this link for an entertaining rendition of the OCEAN song! https://tinyurl.com/vz2frty

low on openness tend to be more practical and conforming and prefers consistency and stability rather than venture into the unknown. **Conscientious** relates to one's desire to do well. People scoring high on conscientious tend to be diligent and self-disciplined, pay meticulous attention to detail and are often considered very reliable. People low in this trait tend to be disorganised, careless and prone to procrastination which can result in a job not completed. Extroversion previously proposed by Eysenck makes it to the Big Five and relates to the level of sociability and emotional expression. People scoring high on this trait feel energised by being around others, they are often considered the life and soul of the party and do not shy during social interactions even with people they have just met. **Extroverts** are outgoing and naturally curious. In contrast people scoring low on this trait tend to be reserved, shy and generally prefer the company of a few rather than a loud party. This would align with being an introvert according to Eysenck's theory. **Agreeableness** relates to how cooperative and accommodating one is. People high in this trait are often considered to be good-natured, sensitive, easy to get along with and warm whilst those scoring low are assertive, hostile and rude. Lastly, we have **Neuroticism**, another trait previously identified by Eysenck. Costa and McCrae have included neuroticism into the Big Five traits which refers to emotional stability. People scoring high on neuroticism tend to be emotionally unstable, worry about everything and prone to anxiety alongside developing neurosis.

Studies have shown that maturation may have an impact on the five traits. As people age, they tend to become less extraverted, less neurotic, and less open to the experience. Agreeableness and conscientiousness, on the other hand, tend to increase as people grow older. (What Are the Big 5 Personality Traits? 2021)

Are you curious about your traits?
Complete The BIG 5 Personality test:
https://www.outofservice.com/bigfive/

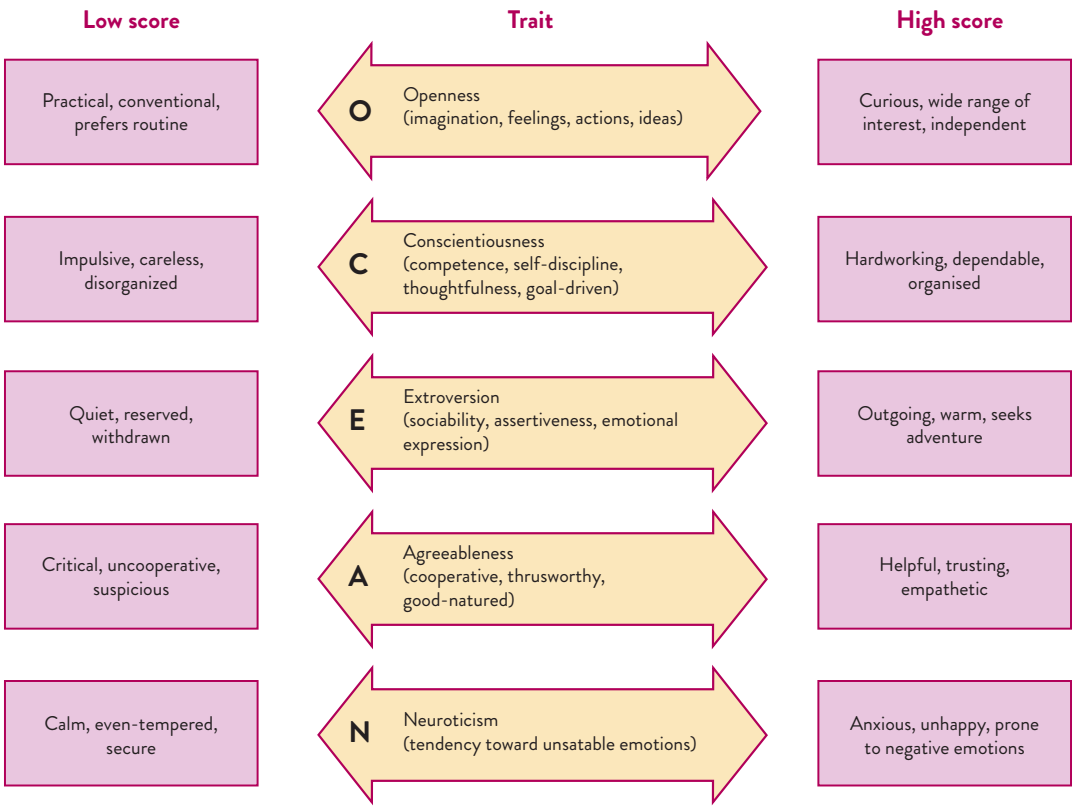


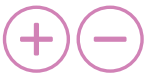
Figure 1.3.6 Diagram showing the Five Factor Model by Costa and McCrae

CRITICAL EVALUATION OF THE FIVE FACTOR MODEL

A study by Jang et al of the genetic and environmental underpinnings of the five traits looked at 123 pairs of identical twins and 127 pairs of fraternal twins. The findings suggested that the heritability of each trait was 53 percent for extraversion, 41 percent for agreeableness, 44 percent for conscientiousness, 41 percent for neuroticism, and 61 for openness.

Support for nature and nurture playing a role in the development of personality traits.

The NEO-PI-R a personality assessment was developed based on the Big 5 theory and is considered the best current model of assessing personality traits.



Some evidence to suggest that the FFM can be applied cross culturally, however, there are also studies that question the cultural application.

The five key traits are too broad to fully explain the uniqueness of some individual's personality.

Some researchers suggest that the FFM provides a summary of personality traits with no explanation of why someone develops the traits.

SCHOOL ASSESSED TASK (SAT): Personality Analysis

This SAT assesses the following design criteria and specific features:
Your task is to choose **one** TV or film character, and describe their personality in terms of **two psychological theories** of personality:

- Psychoanalytic
- Humanistic
- Trait

Your report of no more than 1500 words should:

- briefly describe two theories of personality and how they are used to explain behaviour
- analyse the actions/behaviours of your character to make conclusions about their personality
- apply personality theories to suggest reasons for the character's behaviour. **Justify your analysis with evidence**
- evaluate the conclusions that result from the use of these conceptions. Are they useful or effective in explaining your characters behaviour?

A	Critically deconstructs a problem and designs a logical, coherent, and detailed psychological investigation. Accurately and thoroughly obtains, records, and represents data. Systematically analyses and interprets data and evidence to formulate logical conclusions with detailed justification. Critically and logically evaluates procedures, and their effect on data.	Demonstrates deep and broad knowledge and understanding of a range of psychological concepts. Highly effective application of psychological concepts in diverse contexts. Critically explores and understands in depth the interaction between science and society. Communicates knowledge and understanding of psychology coherently, with highly effective use of appropriate terms, conventions, and representations.

SCIENCE AS A HUMAN ENDEAVOUR: REAL WORLD APPLICATION

SHE task: Choose one of the research articles below and consider how it supports one of the Science as a Human Endeavour concepts in Psychology.

How personality traits of neuroticism and extroversion predict the effects of the COVID-19 on the mental health of Canadians: **https://tinyurl.com/4ykxne4z**

Effect of the COVID-19 Pandemic and Big Five Personality on Subjective and Psychological Well-Being **https://tinyurl.com/2xuw5fuv**

Cross-Cultural Research on the Five-Factor Model of Personality: **https://tinyurl.com/34k9mzth**

Communication and Collaboration

- Science is a global enterprise that relies on clear communication, international conventions, and review and verification of results.
- Collaboration between psychologists and stakeholders progresses research, understanding and enterprise. It requires shared evidence from many sources in a multidisciplinary approach.

Development and Application

- Developments in research, enterprise and technology lead to advancements in psychological understanding.
- The application of psychological understanding can enable scientists to develop solutions, progress discoveries, design action, evaluate and respond to economic, social, cultural, and environmental and sustainable factors.

Influence and Impact

- Psychological knowledge and its application are both influenced by, and influences economic, sociocultural, religious, ecological, environmental, sustainable, ideological and political perspectives in a local, national and global context.
- The use of psychological knowledge may impact through beneficial or unexpected consequences requiring monitoring, assessment, and evaluation of risk, through ethical considerations.

PERSONALITY ANALYSIS: STUDENT EXEMPLAR

This report is centred on the examination of Theodore Robert Cowell (later known as Ted Bundy), an infamous serial killer from the 1970's who kidnapped, raped and killed at least 30 women across 7 states of America (Garrity, 2018). Bundy had a cool and unemotional demeanour which, combined with keen intellect and a charming personality made him a very effective predator. His lack of empathy and inability to feel any pity or remorse for his victims left him with no regard for human life. His behaviours can be somewhat attributed to his troubled childhood as an illegitimate child, being raised as the adopted son of his grandparents and the brother of his mother, Eleanor (Bundy, 2014). when examining Bundy's troubled childhood and subsequent actions as an adult using Freud's Theories as well as The Five-Factor Model in Traits Theory we can begin to understand his complex personality.

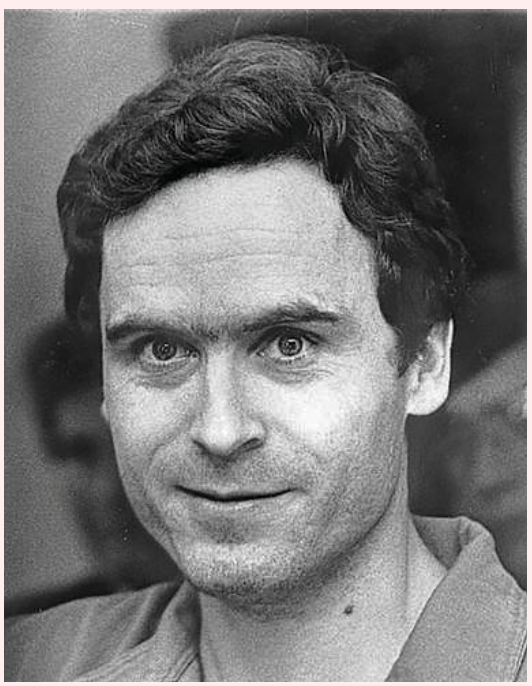


Figure 1: Ted Bundy.

FREUD'S PSYCHODYNAMIC AND PSYCHOSEXUAL THEORIES:

Ted Bundy's career as a serial killer can be explained in terms of Freud's Psychodynamic theory (1923). Sigmund Freud theorised that personality consists of three sets of interactive structures: the id, ego and superego.

The id consists of unconscious instincts. It is the personality component made up of unconscious psychic energy that works to satisfy basic urges, need and desires (Smith, 1993). The id operates based on the pleasure principle, which demands direct and immediate fulfilment of needs. This is a baseline for one's motivation. for Bundy, it is evident that his id is constantly active as he was unable to control himself or his desires when it came to the rape and murder of women. Considering that the id is at an unconscious level within the brain, it is clear that Bundy was using these women to attain gratification, highlighting that his id was predominant throughout his personality.

Freud's psychosexual theory explains that children go through a series of psychosexual stages that lead to the development of one's personality (Cherry, 2020). There are five stages

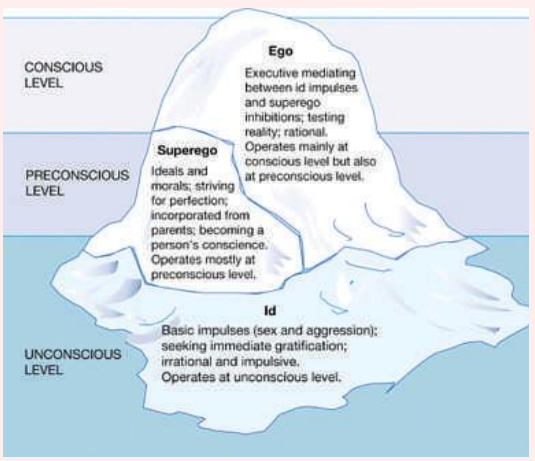
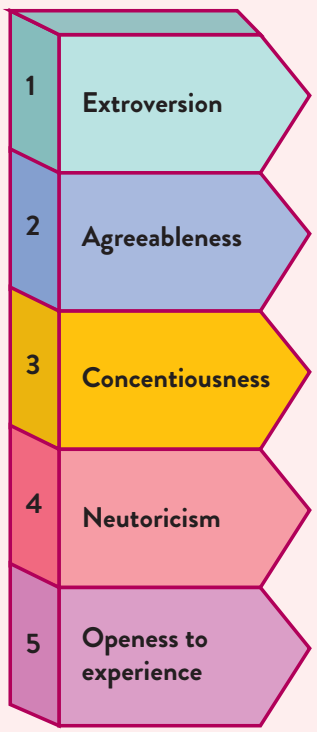


Figure 2: Psychodynamic Theory.

involved in this theory, comprising of: the oral, anal, phallic, latency and genital stages. During these five stages, the erogenous zone associated with each stage acts as a source of pleasure, tying in with the id. Bundy had fixations within 2 of these stages: the Phallic stage and Genital stage, helping explain his lack of impulse control.

The Phallic Stage (3-6 years old) involves pleasure coming from the male genitals (Cherry, 2020). Boys develop an unconscious desire for their mother; therefore, they see their father as competition for the mother's affection, known as the Oedipus complex (McLeod, 2018). If this stage is not resolved, the male resents the father and his authority. For Bundy, his birth mother moved him away from Philadelphia during this crucial stage (Bundy, 2014). This meant that Ted was moving away from his grandparents, (who he thought were his parents) and although Eleanor began a relationship with John Bundy, there was never a father figure for young Ted, making it difficult to have to share his mother's attention with another male. This led to Bundy resenting his stepdad as well as his mother for allowing someone to replace him as he never had a father figure growing up, meaning the Phallic stage was left unresolved. This can explain many of Bundy's actions as an adult, including his desire for women sexually and the desire to kill them to gain control. Not only did Bundy lose attention from his mother to his stepfather, but Eleanor went on to have another four children, dividing her attention even further. Bundy's behaviour could be the display of his unconscious desire to make his mother pay for the lack of parenting she gave him as a child. He transferred his anger onto his victims as a way to punish Eleanor which may explain his lack of remorse and empathy for others.

BIG FIVE



Low scorers:	High scorers:
Loner	Joiner
Quiet	Talkative
Passive	Active
Reserved	Affectionate
Suspicious	Trusting
Critical	Lenient
Ruthless	Soft-hearted
Irritable	Good-natured
Negligent	Conscientious
Lazy	Hard-working
Disorganised	Well-organised
Late	Punctual
Calm	Worried
Even-tempered	Temperamental
Comfortable	Self-conscious
Unemotional	Emotional
Down-to-earth	Imaginative
Uncreative	Creative
Conventional	Original
Uncurious	Curious

Figure 3: Five-Factor Model (Dwyer, 2016).

The Genital Stage occurs throughout adolescence where sexual urges are awakened and directed into an emotional attachment with the opposite sex (McLeod, 2019). This stage was clearly left unresolved, evidenced through the repression of his urges, resulting in these urges being channelled to another source. Bundy displaced his sexual frustration onto his victims, explaining the brutality of their murders. There is evidence that Bundy was quite lonely during high school. He was described by peers as "quiet and shy", but there is also evidence that Bundy was characterized this way due to being introverted and disinterested in social interactions (Kettler, 2019). not only was Bundy a rapist and murder, he was also a diagnosed necrophiliac and sexual sadist (Harfenist, 2019), another contributor to his sexual frustration. Growing up, Bundy consumed a lot of violent pornography which led to an addiction (Casuso,1989). The brutality mixed with the sexual elements of his crimes highlight Bundy's unresolved genital stage and gives some explanation for his personality as an adult. Not only this but the conflict between the id, superego and ego can result in sexual perversions, again supporting Bundy's genital fixation.

it should be noted that even though Freud's theories are widely usen in the analysis of human behaviour, due to difficulties in testing, there is no scientific proof to back up his philosophies. they are therefore subjective in nature.

TRAITS THEORY:

Traits are relatively permanent characteristics that determine one's behaviour (Heffner, 2016). The traits theory concentrates on the fact that personality is influenced by stable traits. Within this domain exists the five-factor model (FFM) or the "big five", which describes personality in terms of the 5 traits: extroversion, agreeableness, conscientiousness, neuroticism and openness (Costa & McCrae, 1992). It is believed that Bundy didn't fit the profile of a typical serial killer given he gained an education, built a career and was seen as emotionally stable by others. (Piercy, 2019.)

Extroversion refers to having an enthusiastic approach towards socialising (John, Naumann and Soto, 2008). However, Bundy was extremely introverted as a child. Sandi Holt, a woman who grew up with Bundy said that he was teased for having a speech impediment and not being able to keep up with his fellow boy scouts (Kettler, 2019). In high school, Bundy was known as a loner, later explaining that "It wasn't that I disliked women or were afraid of them, it was just that I didn't seem to have an inkling as to what to do about them" (Kettler, 2019). Another example of his incapacity to interact socially is this extract from a police interview, "I didn't know what made people want to be friends. I didn't know what made people attractive to one another. I didn't know what underlay social interactions (Ted Bundy, 2014). These insights illustrate Bundy's low levels of extroversion early in his life. His actions as an adult however, can be considered highly extroverted with his thrill-seeking and assertive personality displayed through his actions. As Bundy grew up a shy individual who didn't know how to approach social situations, it can be concluded that it was his trauma throughout childhood that was the foundation of his personality as an adult.

Conscientiousness reflects the tendency to be responsible, organised and hard-working (John, Naumann and Soto, 2008). In contrast with the impulsive, uncontrolled behaviour that one would expect from an antisocial criminal, Bundy was described as being competent and orderly, explaining his organised and neat murder patterns. This is evidenced by the police's inability to convict him for the murder of over 100 suspected victims throughout the 1970's.

Finally, Neuroticism reflects nervousness and emotionality. People high in this dimension are typically insecure and emotionally unstable (John, Naumann and Soto, 2008). bundy can be described as having low levels of neuroticism. Bundy was calm and free from experiencing negative emotions such as anxiety, depression and low self-esteem; he was fearless. This is evident through his ability to brutally murder people, with little to no empathy for his actions. During his trial, Bundy stated that he doesn't feel guilt and that he's "sorry for people that do" (Preston, 2019). Not only this, but during an interview, Bundy compared murder to changing a tire. "You learn what you need to kill and take care of the details. It's like changing a tire. The first time you're careful. By the thirteenth time, you can't remember where you left the lug wrench" (Hammon, 2013). These insights highlight not only Bundy's lack of empathy for what he has done but also his indifference, proving his low levels of neuroticism.

Written by Olivia Taylor, class of 2021.

While it has been noted that the traits of the FFM are too broad, it is useful in providing a rough overview of personality. There is an argument from psychologists that more than five traits are required to encompass the entirety of personality and more specific traits are required to be of use for predicting outcomes (John & Srivastava, 1999). This could suggest that the FFM may not be able to accurately explain bundy's personality, especially the change from an introvert as a child to an extrovert.

To conclude, there are many elements to consider and theories to investigate in a bid to decode the personality of such a complex character. Ted Bundy has been the subject of considerable interest and examination over the years. while Bundy did have some challenges in childhood, the anomalies in his personality profile are as curious today as they were 50 years ago however, with the use of Freud's Theories and the Five factor model we can begin to get a glimpse into his intricate and perplexing character.

Critique this student exemplar.
Identify 3 strengths and 3 improvements

1.4 PERSONALITY ASSESSMENT

Various forms of personality assessment are used today. They include standardised self- report inventories, behavioural observations and clinical interviews.

- **Describe some ways in which personality assessments are used.**
- **Discuss the advantages and disadvantages of using personality assessments for different purposes.**
- **Critique the uses of standardised self- report inventories, behavioural observations and clinical interviews.**
- **Explain the difference between validity and reliability when analysing the effectiveness of a personality assessment.**
- **Describe two ethical issues which must be taken into account when giving someone a personality assessment.**

The ways of measuring personality are linked to particular beliefs about its structure.

- **Describe how the psychodynamic, humanistic and trait proponents of personality would differ in their selection and use of personality assessments.**

2022 Subject Outline | Stage 2

How personality assessments are used

Personality testing and assessments are designed to measure patterns of characteristics or traits that people demonstrate in various situations. Have a think about your own personality and whether your personality traits are consistent at home and school, when you are out with friends, at work or visiting grandma. Do you behave the same, possibly not – but are your personality characteristics consistent?

Contemporary personality assessments can be used to clarify a clinical diagnosis of a mental health disorder or personality disorder. They may provide a guide for the types of therapy best suited to a client requiring professional treatment and are most helpful at predicting how people may respond in different situations. Employers therefore are one of the key users of personality assessment, and they are used for career and job matching. Given our learning from trait theorists that traits are relatively stable personal characteristics, it is therefore logical that we are able to predict how people will behave in the future if we know and understand their personality traits now.

For example – are you a stressor around tests and exams? If you regularly get anxious in the days before a school test, we can predict that you will get anxious before your end of year Psychology exam. If we know this – think about the strategies we can put in place to support you to prepare for the exam and manage your anxiety.

Formal personality tests are administered for a number of different purposes, including:

- Assessing different personality theories
- Evaluating the effectiveness of therapy for a client
- Diagnosing psychological problems
- Looking at changes in personality
- Screening potential employees
- In forensic settings to conduct risk assessments
- Establishing readiness for rehabilitation after a period of incarceration
- In child custody disputes.
- School psychologists often explore student's personality types
- Career and occupational counselling and job matching / job readiness
- Relationship counselling

ADVANTAGES AND DISADVANTAGES OF USING PERSONALITY ASSESSMENTS

Positive impacts of undertaking a personality test include:

- Learning more about yourself, including traits that are your strengths and weaknesses. Knowing your strengths can help you put yourself in situations that play to your strengths. If you have strong leadership traits, then putting yourself forward in a group to take on a leadership role might be a good use of your talent. However, the interesting point about strengths, is that they can also be weaknesses at the same time. If leadership is one of your strong traits – then always taking the leadership role might be your downfall if you are always dominant, bossy or don't let other people also show leadership qualities.
- Knowing how to respond in social situation because you know your personality type. For example if you rate high on introversion, and struggle in social situations, you will know that it is important to find time to yourself to recharge and find quiet time to compensate for the stressful situation you may have been in.
- In employment situations, employers might gain an insight into group dynamics. Knowing that you have a team of employees required to work together on a group project that all share the same personality type, may end in competition and the project failing. If as an employer or manager you strategically place people in teams who complement each other's personality styles, you are likely to achieve diversity and people playing off each other's strengths.
- In job matching situations, it is important to consider, but not rely on personality assessments. For example – if you were the recruiting officer for an emergency ambulance service, would you hire people who score high on introversion and high on neuroticism? Would these people remain calm in an emergency situation? Common workplaces which do use personality questionnaires include the Australian Defence Force. Would we want our armed forces to be full of highly neurotic, psychotic employees?

Potential pitfalls associated with personality testing:

- As self-report inventories rely on people answering questions about themselves, the opportunity for deception is high. Standardised tests have mechanisms built in to minimise the likelihood of people 'faking" their answers, however, when you complete some of the questionnaires yourself, consider how easily it might be not to answer truthfully and to provide socially desirable answers to "pass the test" with the "right" scores.
- People are not always good at assessing themselves, or accurately describing their own behaviour. Not all people possess a high level of emotional intelligence, or introspection (the ability to look inwards at yourself) to make accurate judgements. People tend to overestimate their strengths and downplay their weakness. Alternatively, they may underestimate their strengths, and overestimate their weaknesses – ironically – depending on their personality type.
- Not all tests are reliable or valid. Depending on how a person is feeling on the day they take the test, they may answer questions differently, therefore not achieving consistent results when they retake the test a week, a month, or 6 months later.
- Accuracy of the personality assessment in real life situations may also be vastly different. A person may say that they are assertive and will speak their mind, but when placed in a group situation may sit back and be shy.
- Receiving the results of a personality assessment can create a scenario where people receive unwanted self-knowledge about themselves. In other words, they learn characteristics about themselves that they don't agree with. A person with a positive disposition may take this unwanted knowledge and do something positive to change this, however a person with a depressive tendency may find this information uncomfortable and exacerbate existing mental health issues.

HELPFUL ONLINE RESOURCES

You can read more debate about the pros and cons of personality assessment here: https://tinyurl.com/4dvha624

CHECKING FOR UNDERSTANDING

Describe some ways in which personality assessments are used.

Consider the following situations: Discuss the advantages and disadvantages of using personality assessments in each of these scenarios

A police officer's job can be very stressful, require strong teamwork, and the ability to be assertive, but remain calm. Part of the recruitment process for the police department is for potential recruits to undertake a physical test as well as a personality test.

You are applying for a job in a project team. The following question is asked as part of a personality assessment:

If you were running out of time to finish the project, what would you do?

A Focus on priorities and speed up

B Continue working at the same pace

C Ask for help from colleagues

D Ask for an extended deadline.

Choose how you would answer this question, then consider the advantages and disadvantages of your response.

Consider what you know about stability of traits, and the validity and reliability of personality assessments. Discuss the advantages and disadvantages of using personality assessments for people applying for parole from the prison system. Would your response be any different if the person seeking parole had a diagnosed personality disorder?

Standardised Self Report Inventories (subjective measures)

Standardisation refers to the concept of consistency, it is about keeping the instructions the same regardless of where and when the assessment is conducted. In an experiment it would mean all the participants receive the same instructions so that the research can be replicated; this ensures the procedures are reliable. Self-reports require the participant to complete the measure or assessment on their own. This is usually completed by responding to a number of questions and indicating the strength of attitude or belief, e.g., a range from 1 (strongly disagree) to 5 (strongly agree). The most common form of personality tests are objective measures such as the **Myers Briggs Type Inventory** or Eysenck's Personality Inventory as outlined below which require the individual to respond to the questions honestly and thus produce valid data that is free from researcher bias.

PERSONALITY TYPE INDICATOR

The Myer-Briggs Type Indicator (MBTI) was develop based on the work of Carl G. Jung, (1971). The MBTI can help promote personal growth due to the wide application of the measure. Application of the results can help people understand their emotions and why they respond in certain ways in various circumstances. More commonly employers, schools and universities are using the MBTI to help individuals identify suitable career choices based on their personality. The MBTI is also used to help identify differences between people that can cause conflict, particularly in the workplace.

Despite the simplicity of applying the MBTI it has been criticized for its lack of statistical validity and low reliability.

According to Jung's theory of psychological types, people can be characterised by their preference of general attitude against 3 trait continuums

- Extraverted [E] versus Introverted [I]
- Sensing [S] versus Intuition [N]
- Thinking [T] versus Feeling [F]

Isabel Myers and her mother Katherine Briggs (1980), researchers of Jung's theory, added a fourth element:

- Judging [J] versus Perceiving [P]

The four different scales are:

Extraverted [E] versus Introverted [I] – how people respond to their world

Extraversion personality traits involve energy being directed outwards, easy going, lively, confident, sociable. Extraverted people enjoy being around others, and being the centre of attention.

Introversion personality traits involve directed energy inwards. Introverts typically enjoy time on their own, they are calm, peaceful, and may avoid or feel uncomfortable in social situations with lots of people.

Most people have both attributes, but one will be dominant.

Sensing [S] versus Intuition [N] – how people gather information about the world around them.

Sensing personality types pay a great deal of attention to reality, particularly what they can learn from their own senses in the environment.

Intuition personality types pay more attention to things like patterns, and abstract impressions of artworks, and the meaning in life and the future.

Thinking [T] versus Feeling [F] – How people make decisions about the information from their Sensing / Intuition functions.

Thinking types make decisions based on facts and objective data available to them. They are more likely to consider the facts as they see them from their senses, rather than through intuition.

Feeling personality types are more likely to consider people and emotions when arriving at a conclusion, they are more personal in their decision making.

Judging [J] versus Perceiving [P] – how people tend to deal with the outside world
Judging types prefer structure and definite decisions based on fact and data. People with these traits are not very adaptable to change.
Perceiving personality types are more open, flexible and adaptable. They are able to manage change and can make decisions based on sensing and feeling what is the right thing to do.

Eysenck's Personality Inventory (EPI) (Extroversion/Introversion) The EPI is generally used to access an individual's specific personality traits whilst also identifying character strengths and areas for growth. It can be a useful predicter of behaviour in some social settings and workplace dynamics alongside providing indicators behind motivations and attitudes. Whilst it has proven to uphold high levels of reliability and validity, it is less often used compared to its competitors the MBTI and Cattell's 16PF.

HELPFUL ONLINE RESOURCES

You can read more on the MBTI here:
https://tinyurl.com/yerpbnrb

ISTJ
Responsible, sincere, analytical, reserved, realistic, systematic. Hardworking and trustworthy with sound practical judgement.

ISFJ
Warm, considerate, gentle, responsible, pragmatic, thorough. Devoted caretakers who enjoy being helpful to others.

INFJ
Idealistic, organised, insightful, dependable, compassionate, gentle. Seek harmony and cooperation, enjoy intellectual stimulation.

INTJ
Innovative, independent, strategic, logical, reserved, insightful. Driven by their own original ideas to achieve improvements.

ISTP
Action - oriented, logical, analytical, spontaneous, reserved, independent. Enjoy adventure, skilled at understanding how mechanical things work.

ISFP
Gentle, sensitive, nurturing, helpful, flexible, realistic. Seek to create a personal environment that is both beautiful and practical.

INFP
Sensitive, creative, idealistic, perceptive, caring, loyal. Value inner harmony and personal growth, focus on dreams and possibilities.

INTP
Intellectual, logical, precise, reserved, flexible, ima ginative. Original thinkers who enjoy speculation and creative problem solving.

ESTP
Outgoing, realistic, action - orientated, curious, versatile, spontaneous. Pragmatic problem solvers and skill negotiators.

ESFP
Playful, enthusiastic, friendly, spontaneo us, tactful, flexible. Have strong common sense, enjoy helping people in tangible ways.

ENFP
Enthusiastic, creative, spontaneous, optimistic, supportive, playful. Value inspiration, enjoy starting new projects.

ENTP
Inventive, enthusiastic, strategic, e nterprising, inquisitive, versatile. Enjoy new ideas and challenges, value inspiration.

ESTJ
Efficient, outgoing, analytical, systematic, dependable, realistic. Like to run the show and get things done in an orderly fashion.

ESFJ
Friendly, outgoing, rel iable, conscientious, organised, practical. Seek to be helpful and please others, enjoy being active and productive.

ENFJ
Caring, enthusiastic, idealistic, organised, diplomatic, responsible. Skilled communicators who value connection with people.

ENTJ
S trategic, logical, efficient, outgoing, ambitious, independent. Effective organisers of people and long - range planners

Figure 1.4.1: The 16 different Myers Briggs Personality Types.

Your Task:
Take a Myers Briggs Test here: **https://my-personality-test.com/**. This will take you about 10 minutes, and will ask a series of **rating scale** questions such as:
Summarise your Myers Briggs Personality Type results here:

Do your results align to your own perception of your personality traits?

Following the link below will take you to a downloadable PDF of Eysenck's Personality Inventory. The questions will ask about the way you behave, feel and act, and you are required to respond with Yes / No answers. A scoring table is included. **https://tinyurl.com/zekyx4zw**

Write the results of your EPI Test here

Do your results align to what you identify as your personality traits?

Write the results of your 16PF inventory here:

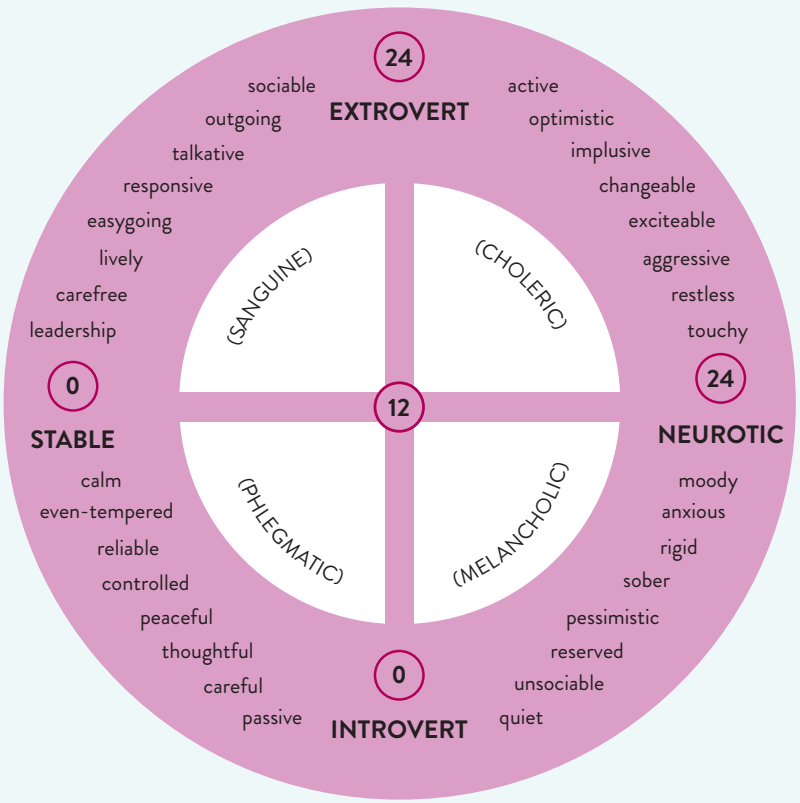


Figure 1.4.2: Extrovert / Introvert and Stable /Neurotic examples of personality traits.

THE MINNESOTA MULTIPHASIC PERSONALITY INVENTORY (MMPI)

The Minnesota Multiphasic Personality Inventory (MMPI) was developed to assess personality traits and patients with complex emotional disorders. Over the years it has been revised to ensure that it can be more broadly applied to the wider population than its predecessor, however, the MMPI-2 still takes around two hours to complete and consists of a staggering 567 questions. The inventory provides a clinical profile composed of 10 scales hypochondriasis, depression, hysteria, psychopathic deviance (social deviance), masculinity versus femininity, paranoia, psychasthenia (obsessive/compulsive qualities), schizophrenia, hypomania, and social introversion. (Assessing Personality | Boundless Psychology, 2021). Despite the exorbitant time required for patients to complete the inventory it is still one of the most widely used personality tests used with standardised application across clinical settings. More modern application has included non-clinical settings such as entry to special forces which is highly criticised as this was not the intended use or application of the inventory. The MMPI-A has been devised exclusively for adolescent psychopathology, neither the MMPI-A or the MMPI are available on-line and are only administered by trained Psychologists.

Cattell's 16PF (personality factor) (1957) identified 16 factors or dimensions of personality: warmth, reasoning, emotional stability, dominance, liveliness, rule-consciousness, social boldness, sensitivity, vigilance, abstractedness, privateness, apprehension, openness to change, self-reliance, perfectionism, and tension. *(Assessing Personality | Boundless Psychology, 2021)* All of which are measured across a continuum.

In his explorations of personality, British psychologist Raymond Cattell found that variations in human personality could be best explained by a model that has sixteen variables (personality traits), using a statistical procedure known as factor analysis. Following this discovery, he went on to create and promote the 16PF Questionnaire. The 16PF can be used by psychologists and other mental health professionals as a clinical instrument to help diagnose psychiatric disorders and help with predicting how well people will manage their therapy. It provides psychologists with a normal-range measurement of anxiety, adjustment, emotional stability, and behavioural problems.

It can also be used within other areas of psychology, such as career and occupational selection.

Unlike Eysenck's EPI being criticised for being too narrow, Cattell's 16PF is considered too broad.

NEO PI-R (NEUROTICISM, EXTRAVERSION, OPENNESS TO EXPERIENCE PERSONALITY INVENTORY (REVISED)

THE NEO PR-R is a personality assessment that is restricted to psychologist use only, therefore like the MMPI is not accessible on the internet. The Revised Neo Pi (personality inventory) is designed to measure adult personality traits using the five factor model. According to the five factor model, the five dimensions of personality lies along a continuum of opposing facets and include Openness to Experience, Conscientiousness, Extroversion, Agreeableness, and Neuroticism . The NEO PE-R has been validated against other personality inventories; hence the integrity and validity of this test makes it unavailable on the internet. The advantage of this is that people are unable to "practice" the questions before undertaking the test.

HEXACO PI-R

The underlying factor structure of this inventory is similar to the big five personality factors which in large parts resemble five of the six HEXACO personality factors. HEXACO is also an acronym for its factors: Honesty-Humility, Emotionality, Extraversion, Agreeableness, Conscientiousness and Openness to Experience.

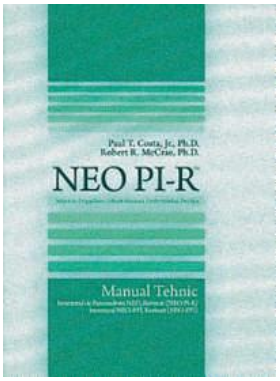


Figure 1.4.3: The NEO-PI-R is restricted to psychologist use only, and not published on the internet to maintain validity and reliability of the test.

Link to the Science Inquiry Skills Chapter page 482 Continue to revise the concepts of validity and reliability, then consider how these concepts apply to the personality inventories you have completed.

HELPFUL ONLINE RESOURCES

You are able to test your own personality using online versions of each of these Standardised self report inventories.

Myers Briggs
https://my-personality-test.com/

EPI
https://tinyurl.com/zekyx4zw

16PF
https://tinyurl.com/kj45f679

NEO-PI-R
https://www.sapa-project.org/

HEXACO
https://hexaco.org/

CHECKING FOR UNDERSTANDING: REFLECTION

Explain the difference between validity and reliability with regard to personality assessments.

Are the results of the online personality inventories you have completed reliable?

Based on what you know about research methods, suggest some improvements to the testing protocols, or explain how you would administer the tests you have explored in a professional scenario to maximise reliability and validity. What do you think is needed for a good personality test?

Behavioural Observations (objective measures)

Many people become interested in psychology because of our fascination with observing what people do – particularly in contexts like a coffee shop, at a party, a sporting event, or an airport, in the classroom, or in our place of work. People are making judgements about people's personalities all the time, possibly without even noticing.

Behavioural observations are a psychological tool is used for observing, describing, explaining and predicting behaviour. Behavioural observations were typically used in clinical settings, however, are becoming more popular especially in educational and workplace sectors. They provide a different, and complementary level of insight into people's behaviours and personalities and are therefore useful due to their ability to predict future behaviour.

Behavioural observations are common in education settings, kindergartens and schools. Teachers use behavioural observations every day to get to know their students. They observe peer relationships, start to understand who is confident to respond to questions, who likes and doesn't like to be put on the spot, who is going to become anxious before a test, and who prefers to sit in the back row and not answer any questions. As teachers, we observe appropriate and inappropriate behaviours and can use behavioural observations to set specific goals for improvement for students.

Unlike other methods of behavioural assessment, most of which rely on people's perceptions of their own behaviour, behavioural observation involves watching and recording the behaviour of a person in their normal environment (for example in their normal classroom). The assumption is therefore that data collected are more objective than self-reported measures.

FUNCTIONAL BEHAVIOUR ASSESSMENT IN EDUCATION SETTINGS

See the table below which is an example of a typical observation a visiting psychologist may make in a classroom when determining the purpose a behaviour serves for a student who is repeatedly in trouble at school.

Setting Event: context	**Antecedent:** What happened *immediately* before the behaviour?	**Behaviour:** Describe the behaviour in observable terms	Consequence: What happened *immediately* after the behaviour?	**Possible Function:** What is the "payoff"? Why is the behavioor happening?
Date: **Time:** 11:50 am **Activity:** Music lesson **People:** Peers, teacher **Place:** School	Teacher began taking role/ introducing class. Student arrived late (approx. 5 minutes and sat down)	Student got up and walked out of class without permission and was found by SSO eating some popcorn in the hallway.	Student was "told off" in the hall – who reminded him that she he could bring the popcorn down with him but not to eat it until class was finished. SSO instructed Student to return to class.	Seeking/gaining access to food (tangible)? Avoiding transition to class
Date: **Time:** 1300 **Activity:** English Class **People:** Peers, teacher SSO **Place:** School	Transition to English class	Student 'dawdled' between classes, and on arrival at English he took off upstairs saying he needed to get his book (without permission).	After a few minutes the SSO went looking for him but couldn't find him. He came back on his own about 10 mins later without a book but had his mobile phone. Teacher asked him to hand over phone, which he did.	Avoiding transitioning to English

Table 1.4.1: An example of a functional behaviour assessment used in a secondary school.

This method of collecting information about the student's personality characteristics requires regular observations to identify patterns of behaviour, and to consider the situations that happened before and after the behaviour. From here the function can be determined. This information arms teachers and psychologists with useful information to attempt to change the situation and prevent poor choice behaviour occurring again in the future. This is a good example of the use of psychology, and what we know about personality traits. The predictive nature of personality traits is being used to predict the situations which lead to poor classroom behaviour.

BEHAVIOUR OBSERVATIONS IN CLINICAL PRACTICE

Behaviour observations are also commonly used by psychologists working with children and adults experiencing mental health issues. Often people present behaviours that can be used as the clue to an underlying mental health issue. Conducting behaviour counts for duration, intensity, frequency of concerning, or unhealthy behaviours can assist in creating a baseline of what is 'normal' behaviour and assist with diagnosis of, and suitable interventions for people with mental health issues.

Figure 1.4.4: Psychologists conduct behavioural observations by interacting with people and counting behaviours of interest during the session.

ISSUES WITH BEHAVIOURAL OBSERVATIONS

If the observer is in the physical presence of the people, they are observing while collecting behavioural observation data, there is the potential for the observation itself to change a person's behaviour. If you know you are being watched, you are likely to behave differently either consciously or subconsciously, this is referred to as social desirability bias or response bias. This can compromise the validity of observation data, so observers need to get the person used to being observed so that they behave normally.

Reliability refers to the consistency of results and is particularly important for the purposes of behavioural observation. There are several types of reliability, including internal consistency, test-retest, and inter-rater reliability. For two observers to agree on the behaviours they have seen, it is important they agree on the definition of the target behaviours they are looking for. For example, if they are looking for "naughty" behaviour – this is a very vague description. If they agree that naughty behaviour is defined as "not following an instruction within 30 seconds", then this is very objective, and can be easily observed and measured.

USE OF BEHAVIOURAL OBSERVATION DATA

1. Create a baseline set of data – how often, how intense, and how long is the behaviour occurring for?
2. Establish a goal – what changes are we expecting to see in this behaviour, setting a SMART goal is useful.
3. Measure improvement in the goal – behavioural observations can be measured again after a period of time to establish whether there are any changes in the target behaviour – can little Johnny follow an instruction within 30 seconds now?

Clinical interviews (qualitative measures)

Clinical interviews are mostly used by mental health professionals to accurately diagnose mental disorders such as personality disorders. They consist of 1:1, typically face to face discussions where questions will be asked about a person's life history, family, their relationships. The questions may be structured, unstructured, or semi-structured.

Structured interview questions are pre-planned and are typically the same questions asked from every patient in the same way. The questions asked in a structured interview have been researched to ensure that the data gathered from the questions are reliable and valid.

An unstructured interview allows the psychologist to be more conversational and ask questions they think are helpful or useful as the discussion unfolds naturally. Semi-structured interviews combine both types of questions. For instance, The Diagnostic Interview for Personality Disorders (DIPD) is a semi-structured interview of 252 questions that is often very useful in screening for personality disorders.

TYPES OF CLINICAL INTERVIEWS

In an initial interview, a psychologist is likely to ask questions about a client's life history and medical history along with more questions about childhood development, relationships and friendships and so on. Information gathered here helps the health professional get an overview of what the problems are, understand your personality, and decide on a treatment path.

Sometimes a psychologist may decide to interview family members or people with a close relationship. This is only done after getting the written consent from both groups. The purpose behind this is to decrease bias and compare the differences in perspectives.

Figure 1.4.5: Clinical interviews are typically 1:1 interviews in a professional setting.

CRITIQUING THE USE OF PERSONALITY ASSESSMENTS CHECKING FOR UNDERSTANDING

The ways of measuring personality are linked to beliefs about its structure. Describe how the psychodynamic, humanistic and trait proponents of personality would differ in their selection and use of personality assessments.

Create a summary below of each of the conceptions of personality, and the ways that each of the proponents of personality might differ in their selection of personality assessments. How might Freud, Maslow, Rogers, Eysenck, or any of the trait theorists go about measuring or assessing personality in their clients.

Psychodynamic theorists	Humanistic theorists	Trait theorists
Freud	Maslow Rogers	Eysenck Big 5 (FFM) Other Trait theorists
Method of personality assessment	**Method of personality assessment**	**Method of personality assessment**

Critique the uses of standardised self- report inventories, behavioural observations and clinical interviews.

Self-report inventories	Behavioural observations	Clinical interviews
Strengths/Usefulness/ Validity/ Reliability	Strengths/Usefulness/ Validity/ Reliability	Strengths/Usefulness/ Validity/ Reliability
Weaknesses/Issues/Concerns with validity/reliability	Weaknesses/Issues/Concerns with validity/reliability	Weaknesses/Issues/Concerns with validity/reliability

SCIENCE AS A HUMAN ENDEAVOUR: REAL WORLD APPLICATION

How useful is personality testing in the workplace?

Choose one of the research articles below or find one of your own to understand and form your own conclusion about whether personality testing should be used in the workplace

https://tinyurl.com/2xfjck5z
https://tinyurl.com/s8jpztwt
https://tinyurl.com/9dm7jau3
https://tinyurl.com/2xydb6xv

Communication and Collaboration

- Science is a global enterprise that relies on clear communication, international conventions, and review and verification of results.
- Collaboration between psychologists and stakeholders progresses research, understanding and enterprise. It requires shared evidence from many sources in a multidisciplinary approach.

Development and Application

- Developments in research, enterprise and technology lead to advancements in psychological understanding.
- The application of psychological understanding can enable scientists to develop solutions, progress discoveries, design action, evaluate and respond to economic, social, cultural, and environmental and sustainable factors.

Influence and Impact

- Psychological knowledge and its application are both influenced by, and influences economic, sociocultural, religious, ecological, environmental, sustainable, ideological and political perspectives in a local, national and global context.
- The use of psychological knowledge may impact through beneficial or unexpected consequences requiring monitoring, assessment, and evaluation of risk, through ethical considerations.

ETHICAL ISSUES ASSOCIATED WITH PERSONALITY ASSESSMENT

When conducting personality assessments whether it is in clinical or non-clinical practice it is crucial for the administrator to consider the risk of harm or distress to the client based on results. To manage this effectively personality assessments should only be conducted by a trained Psychologist. With the extensive and diverse use of personality testing over the last century on-going concerns have been raised regarding inappropriate use of tests and assessment techniques, confidentiality, cultural bias, invasion of privacy, and the continued use of tests despite lacking validity. (Mukherjee and Kumar, 2016)

ETHICAL ISSUES IN PERSONALITY ASSESSMENT IN THE WORKPLACE

Concerns regarding personality assessment for workplace purposes can cause challenges for individuals if the results are shared with employers without professional discussion regarding what the results mean for the worker and employer. Some concerns have been raised around exclusion of promotion, employment and discrimination based on the results. Whilst many psychologists support the use of testing others have suggested that it can cause harm not only to the individual but to the innovation of the company.

HELPFUL ONLINE RESOURCES

The Australian Psychological Society provides ethical guidelines regarding the conduct of personality assessments. You can read more here: https://tinyurl.com/4vp9r38c

Read Kari O'Grady's concerns regarding the use of personality testing and the implications for culturally diverse workers. https://tinyurl.com/46w9jc3f

1.5 UNDERSTANDING PERSONALITY IN EVERYDAY EXPERIENCES

Psychological principles concerning personality are evident in everyday experiences.

- **Describe how an understanding of the similarities and differences between people could promote personal growth in an individual.**
- **Describe how assertiveness training could be used to:**
  - **promote personal growth**
  - **improve social relationships.**

2022 Subject Outline | Stage 2

The previous section on personality assessment has provided an understanding of the diversity of personality assessments and their applications from clinical assessment to determining suitability for positions in the workplace. This section will examine how useful it is having insight to your personality and that of others in everyday life.

Personality and the workplace

Our personality traits and characteristics influence how we think, feel, and respond in a range of circumstances. Understanding the similarities and differences in personality can be helpful in the workplace, particularly when organising working groups who collaborate on projects or simply work as part of a larger team. Strategically developing teams with specific members can be helpful in reducing and in addressing conflict or ensuring that cohesive collaboration is possible. Human beings are complex creatures and thus understanding our own and others personality traits can be helpful in seeking out opportunities to enable an individual to thrive and avoid situations that compromise well-being. It is becoming routine practice for personality screening to occur in a range of fields where high stress and conflict are likely to occur due to the nature of the job, for example the armed forces, sales and many other front line work roles.

Think about some of your favourite actors and consider the types of roles they play. Are they typecast, or do they play a diverse range of roles and characters? Historically people were cast based on similarity of personality traits to the character they portrayed, nowadays people are required to be able to act across diverse characters and hence few continue to be typecast. Those who find this difficult also find work less often.

Personality and peer relations

Personality of self and others is a key determinant of social relationships. Research has shown that personality traits affect relationships and thus the quality and longevity of peer relations. Bahri and Yousefi (2013) conducted research regarding the role of personality traits in predicting students' social skills, peer relationships, and behavioural-emotional engagement with a sample of 354 middle school students. They found that only the personality trait of agreeableness was a positive significant predictor of appropriate social skills. Emotional constancy, conscientiousness, extraversion dimensions were able to predict relationship with peers in a positive and significant manner. Moreover, conscientiousness and agreement dimensions were positive and significant predictors of students' behavioural engagement in academic tasks.

Meanwhile, these personality components together with emotional constancy predicted emotional engagement in a positive and significant manner (Bahri and Yousefi, 2013).

On a basic level we tend to engage with peers who have similar personality traits to our own as they also tend to have shared experiences, beliefs, and interests. But there is an old saying that opposites attract, and this is often in reference to the attraction to qualities and personality traits in others that we find alluring and compelled to engage with. Having opposing personality traits can bring challenges for relationships but with the opposing strengths it is possible that these can bring strength and growth to our relationships.

Personality, procrastination and academic performance

Each year teachers and educators encourage students "just get that assessment done, hand it in, you're so close". How many of you have heard one of those comments? Researchers McCown, Petzel & Rupert, 1987, suggest that individuals high on the neuroticism scale tend to procrastinate compared to those lower on the scale. They attribute anxiety as a cue for task avoidance. Overall, there are mixed findings for the impact of procrastination on academic performance with most results showing moderate correlation, others relatively weak correlations (Steel et al 2001). Where academic performance is compromised, it is generally due to failing to act on one's best intentions to complete the work as procrastination aids in the reduction of immediate anxiety but not prolonged anxiety.

Figure 1.5.1: Are you a self-diagnosed procrastinator with your schoolwork?

CHECKING FOR UNDERSTANDING

Discuss how the study preferences of students with different personalities could differ?

Identify how schools could cater to these differences.

Promoting personal growth

Understanding self and others is essential in promoting personal and professional growth. Many individuals experience personal growth in therapy where self-awareness can be explored in a safe and non-threatening environment. Having knowledge of our personality traits from a biological level can be important in predicting potential challenges due to the predisposition and vulnerability that some traits carry e.g., neuroticism and stress or extraversion and the impact of social isolation.

The years 2020-2021 were challenging years for many people given the requirement for self-isolation, enforced lockdowns and isolation throughout the world. There has been concern that alongside worsening mental health for those already diagnosed many people who may not have experienced poor mental health prior could be more at risk due to their personality traits. Being aware of this can be helpful as it provides an opportunity for individuals, families, government and not for profit organisations to be proactive in reducing the impacts under such conditions given there is an understanding of how some people may be impacted and respond.

New and emerging research regarding Personality as a predictor of Personal Growth Initiative (PGI) has found that evidence of Personality Type A has a significantly positive relationship with PGI whereas Personality Type B has a statistically significant negative relationship with PGI (Santosh Kumar, Pooja and Renu, 2021). This new research could be helpful in devising treatment plans and community-based programs to enhance personal growth and enhance understanding of the needs of others determined by personality traits.

Knowing of our own personality traits and those of others can provide opportunities for growth and development in communication skills, building and developing peer and working relationships and enhancing tolerance and acceptance of difference. Australia is a diverse nation with people from around the world embracing the opportunities for individuals, families, and overall lifestyle.

CHECKING FOR UNDERSTANDING

Explore the notion of personality differences between cultures, and the implications for cross-cultural relationships?

Using your knowledge of personality consider how the Covid19 pandemic may impacted people based on their personality traits?

Complete research and make notes on the traits identified with Personality Type A, B, (C and D) and the risk factors.

Personality type	Traits	Risk Factors
A		
B		
C		
D		

Outline why psychologists believe that personality type can be a predictor of disease.

Assertiveness training is a form of behavioural therapy that enhances communication skills enabling individuals to successfully express their wishes respectfully and without aggression. Assertiveness is an interpersonal skill that promotes personal growth as using the skills can help reduce and manage conflict; build self-confidence and enhance relationships.

The goal of assertiveness training include:

- increased awareness of personal rights.
- identifying and maintaining personal boundaries and those of others
- differentiation between non assertiveness and assertiveness.
- differentiation between passive–aggressiveness and aggressiveness.
- learning both verbal and non-verbal assertiveness skills

(Craighead and Charles 2002).

6 STEP ASSERTIVENESS SKILLS TRAINING

The skills taught in assertiveness training are shown in the diagram below.

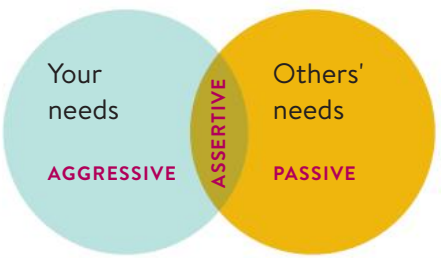
HELPFUL ONLINE RESOURCES

Assertiveness hints and tips:
https://tinyurl.com/t8cnnxj6

The VIA Character Strengths Test is an interesting activity that helps to identify your strengths. Try it yourself here:
https://tinyurl.com/22cnbm43

Understanding and developing your own strengths can further develop personal growth.

Do the results align with what you or your peers consider being your strengths? Do any surprise you?



Put the following statements under the correct headings in the three boxes below:

Making sure things are fair – for you and others	Looking out for yourself	Allowing yourself to be bullied	Standing up for yourself
Bullying others	Not saying what you think, or not saying anything	Express your point clearly and confidently	Can lead to shouting, aggression, or violence
Damages relationships – other people respect you less	Enhances relationships – other people know where they stand	Damages relationships – other people don't like aggression	Damages your self-esteem Builds your self-esteem
Tips for communicating assertively	Use "I" statements	Thinking your needs don't matter at all	Recognising that your needs matter as much as anyone else's
Thinking that only your needs matter	Give in	Compromise	Take
Not talking, not being heard	Talking and listening	Talking over people	Be clear and direct
"I think what you have done is good but I would like to see more of ..."	Describe how another person's behaviour makes you feel	Stick to your guns – the broken record technique	This makes other people aware of the consequences of their actions

Check your answers on page 86

PASSIVE	ASSERTIVE	AGGRESSIVE

1.6 PERSONALITY DISORDERS

Personality disorders can be conceptualised as exaggerations of personality traits to dysfunctional levels.

- **Suggest how a biopsychosocial model could be used to understand the development of a personality disorder.**

There is often a stigma associated with personality disorders, such as borderline personality disorder.

- **explore the concept of 'stigma' and how it gets constructed and applied.**

Discuss:

- **the stereotypical ways in which people with mental health issues are viewed**
- **the role of media in promoting these stereotypes**
- **the effects of this stigma on the individual**
- **ways of reducing or removing this stigma.**

2022 Subject Outline | Stage 2

Personality Disorders

THE DIFFERENCE BETWEEN PERSONALITY TRAITS, AND PERSONALITY DISORDERS

Personality traits represent patterns of thinking, perceiving, reacting, and relating that are relatively stable over time.

Personality disorders exist when these personality traits become so obvious, inflexible, and harmful (maladaptive) that they impact negatively on a person's ability to work, go to school, maintain family and social relationships.

People usually start to become aware of their personality disorders during late adolescence or early adulthood, although sometimes signs are apparent earlier during childhood. Some types of personality disorders tend to become less prominent as people get older.

Approximately 10% of the population and up to half of the psychiatric patients in hospitals and clinics have a personality disorder. Gender, socioeconomic background, race factors do not provide any greater risk of developing a personality disorder, however there are some common findings – for example with antisocial personality disorder, men outnumber women 6:1, yet women outnumber men 3:1 with borderline personality disorder diagnoses.

BIOPSYCHOSOCIAL MODEL FOR UNDERSTANDING DEVELOPMENT OF A PERSONALITY DISORDER

There is an important relationship between **nature** (biology and temperament) and **nurture** (the social environment and life experiences) in the development of personality.

The biopsychosocial model highlights

- biologically based vulnerabilities
- early experiences with significant others, and
- the role of social factors in buffering or intensifying problematic personality traits.

HELPFUL ONLINE RESOURCES

For more information about the biopsychosocial theories on the development of personality disorders consider the following websites: https://tinyurl.com/2mxtcnam

https://tinyurl.com/c9j6uw93

https://tinyurl.com/6z3azmt4

DEVELOPMENT OF PERSONALITY DISORDERS

BIOLOGICAL

Research suggests some underlying biological or genetic predispositions for personality disorders, more commonly with disorders such as schizophrenia.

Antisocial personality disorder and borderline personality disorder are related to neurological dysfunctions, specifically deficits in serotonin.

These low levels of serotonin combined with deficient functioning in the prefrontal cortex which is used for planning, self-control and decision making may explain the impulsive and aggressive nature of people with these disorders.

SOCIAL

Family Dysfunction within families has been identified as a contributing factor. Poverty, unemployment, family separation, domestic violence are often observed in people with personality disorders.

Childhood maltreatment is one of the most influential arguments for the development of personality disorders in adulthood. Sense of self, and ability to relate to others in the first 4-6 years of a child's life is affected by the emotional environment in which a child is brought up.

Attachment – the relationship between attachment and emotional development is well researched (Bowlby, 1998) Children with anxious, ambivalent, and disorganised attachment are at risk for developing various disorders.

PSYCHOLOGICAL

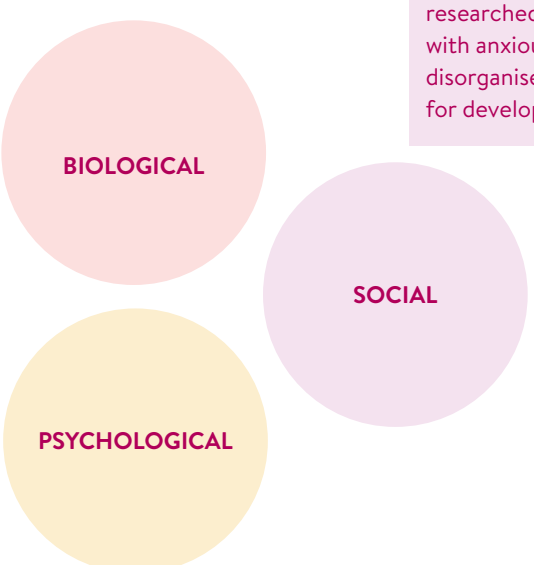
Psychodynamic, cognitive and behavioural theories are commonly used to explain the development of personality disorders.

Psychodynamic
Focus on early childhood experiences and their impact on a person's ability to establish healthy adult relationships. Negative early experiences impact sense of self, thus leading to development of a personality disorder.

Cognitive
Deficiencies in thinking patterns, dichotomous thinking (all or nothing) thinking, *discounting the positive* – if criticised during childhood, may have difficulty accepting positives from others.

Behavioural

1. Observational learning (modelling from others)
2. Reinforcement (unintentional rewarding of aggressive, oppositional, compulsive behaviours in children may increase likelihood in adulthood)
3. Failure to develop social skills may explain development of some personality disorders.



RISK FACTORS

Child	Family	School	Community
☒ Genetic influences ☒ Low IQ and learning difficulties ☒ Specific development delay ☒ Communication difficulties ☒ Difficult temperament ☒ Physical illness ☒ Low self-esteem	☒ Family disharmony or break-up ☒ Inconsistent discipline styles ☒ Parent/s with mental illness or substance abuse ☒ Physical, sexual neglect or emotional abuse ☒ Parental criminality or alcoholism ☒ Death and loss	☒ Bullying ☒ Discrimination ☒ Breakdown or lack of positive friendships ☒ Deviant peer influences ☒ Peer pressure ☒ Poor pupil to teacher relationships	☒ Socio-economic disadvantage ☒ Homelessness ☒ Disaster, accidents, war or other overwhelming events ☒ Discrimination ☒ Other significant life events ☒ Lack of access to support services
☑ Secure attachment experience ☑ Good communication skills ☑ Having a belief in control ☑ A positive attitude ☑ Experiences of success and achievement ☑ Capacity to reflect	☑ Family harmony and stability ☑ Supportive parenting ☑ Strong family values ☑ Affection ☑ Clear, consistent discipline ☑ Support for education	☑ Positive school climate that enhances belonging and connectedness ☑ Clear policies on behaviour and bullying ☑ 'Open door' policy for children who raise problems ☑ A whole-school approach to promoting good mental health	☑ Wider supportive network ☑ Good housing ☑ High standard of living ☑ Opportunities for valued social roles ☑ Range of sport/ leisure activities

PROTECTIVE FACTORS

Figure 1.6.1: Risk factors and protective factors for the development of personality.

CHECKING FOR UNDERSTANDING

Conduct further research into the biopsychosocial model in relation to the development of personality disorders.

- Summarise the risk factors from a biological, psychological, and social perspective in the circles below.
- Draw a conclusion about how each of the elements of the biopsychosocial model might interact with one another if these risk factors were in place for an individual

- Summarise the protective factors from a biological, psychological, and social perspective in the circles below.
- Draw a conclusion about how each of the elements of the biopsychosocial model might interact with one another if these risk factors were in place for an individual

CLASSIFICATION OF PERSONALITY DISORDERS

The Diagnostic and Statistical Manual of Mental Disorders, *Fifth Edition* (DSM-5) lists 10 types of personality disorders

Cluster A	Cluster B	Cluster C
People with this type of disorder are generally described as having 'odd' or 'eccentric' thoughts or behaviours: • **Paranoid personality disorder:** people with this disorder are suspicious and mistrustful of others, interpret other people's motives as harmful, and may be hostile or emotionally detached. • **Schizoid personality disorder:** this disorder causes someone to lack interest in social relationships and have an unemotional response to social interactions. • **Schizotypal personality disorder:** this may cause people to behave eccentrically, have peculiar dress, have unusual or bizarre thoughts and beliefs, feel discomfort in social settings, and have trouble forming close relationships.	General features of this group include unstable emotions and dramatic or impulsive behaviours: • **Antisocial personality disorder:** this disorder may cause a disregard for the law or for the rights of others, with a lack of remorse, including lying and stealing, aggression, violence or illegal behaviour. • **Histrionic personality disorder:** people with this disorder are highly emotional and dramatic, have an excessive need for attention and approval, and may be obsessed with their appearance. • **Borderline personality disorder:** the main features include fear of abandonment, intense and unstable relationships, extreme emotional outbursts, deliberate self-harm or self-destructive behaviour and a fragile sense of self or identity. • **Narcissistic personality disorder:** a pattern of inflated self-esteem (https://tinyurl.com/bx3hwm9f), need for admiration, lack of empathy or concern for others, and fantasies of success, power or beauty.	General features of these disorders include anxious and fearful thoughts and behaviour: • **Avoidant personality disorder:** people with this disorder avoid social interaction and are extremely sensitive to negative judgements by others; they may be timid and socially isolated with feelings of inadequacy. • **Obsessive-compulsive personality disorder:** people with this disorder are preoccupied by rules, orderliness and value work above other aspects of life. They are perfectionistic and have a need to be in control. Note that this is different from obsessive-compulsive disorder (OCD). • **Dependent personality disorder:** this disorder causes a fear of being alone and a need to be taken care of, difficulty separating from loved ones or making independent decisions. People may be submissive and even tolerate domineering or abusive relationships. Source: **Personality disorders: an overview | healthdirect** https://tinyurl.com/y2ewn7y8

HELPFUL ONLINE RESOURCES

For more detail about personality disorders refer to:
Australian website:
Healthdirect Personality disorders: an overview | healthdirect
https://tinyurl.com/y2ewn7y8

Mayo clinic:
https://tinyurl.com/rkvezz89

DIAGNOSTIC TOOLS AND ISSUES WITH DIAGNOSIS

The DSM-V was developed using the behavioural expectations of white middle class westerners, particularly on the demographics of the USA. This means that people who lie outside of these groups are at risk of their behaviour being considered abnormal due to a variety of differences in socio-economic and cultural experiences. Social norms by their very definition are specific to a particular culture or society. Judging the behaviour of an individual from one culture against the social norms of a different culture may cause problems and lead to misdiagnosis.

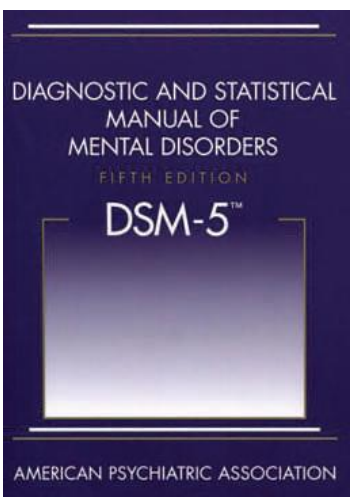


Figure 1.6.2: Front cover of the Diagnostic and Statistical Manual of Mental Disorders.

Clinical diagnosis is generally conducted using clinical questionnaires or in some instances behavioural observations. Clinical questionnaires are reliable as they have been standardised. The concept of reliability refers to the degree of variation among responses in repeated trials and with different interviewers. The difficulty is that clinicians are relying on individuals disclosing accurate information about their symptoms. Often individuals with complex mental illness are not able to identify their symptoms as being problematic or choose to withhold information regarding their symptoms and experiences making accurate diagnosis and effective treatments impossible to implement.

HELPFUL ONLINE RESOURCES

Further reading for interest only. Top 10 Bizarre Cultural Disorders:
https://tinyurl.com/pu5szv5s

Research demonstrating the complexity of diagnosis. "On being sane in insane places." In 1973 Rosenhan conducted an experiment into how accurate psychiatrists are at diagnosing abnormality, and the results shook the medical community.

The first part involved the use "pseudopatients" who stated that they kept hearing the word 'thud', 'shallow' and 'hollow' in an attempt to gain admission to 12 different psychiatric hospitals. All were admitted and diagnosed with psychiatric disorders. After admission, the pseudopatients acted normally and told staff that they felt fine and had not experienced any more hallucinations. Hospital staff failed to detect a single pseudopatient, and instead believed that all of the pseudopatients exhibited symptoms of ongoing mental illness. Several were confined for months. All were forced to admit to having a mental illness and agree to take antipsychotic drugs as a condition of their release.

The second part involved an offended hospital challenging Rosenhan to send pseudopatients to its facility, whom its staff would then detect. Rosenhan agreed and in the following weeks out of 193 new patients the staff identified 41 as potential pseudopatients. In fact, Rosenhan had sent no-one to the hospital.

The study concluded, "It is clear that we cannot distinguish the sane from the insane in psychiatric hospitals" and also illustrated the dangers of dehumanization and labeling in psychiatric institutions.

RISK FACTORS

Although the precise cause of personality disorders is not known, certain factors seem to increase the risk of developing or triggering personality disorders, including:

- Complex PTSD
- Brain chemistry/structure
- Childhood conduct disorder
- Abuse
- Family history of personality disorders
- Unstable family life during childhood/adolescence
- Trauma

SCIENCE AS A HUMAN ENDEAVOUR: REAL WORLD APPLICATION

It is estimated that about 10% of the world's population suffers from some form of personality disorder.

In small groups, or individually, select one personality disorder from the disorders described above. **Gather information about your disorder based on the guiding statements below and present your findings back to the class.**

Investigate;

- the disorder
- the possible treatments (Biological, Psychological, Biopsychosocial)
- the prognosis

Stigma

The term personality disorder is not ideal, as people don't like to think that there is something wrong with their personality, or something wrong with them. Being diagnosed with a personality disorder, like other mental health issues can lead to stigma when people don't understand mental illness. A stigma is associated with a negative label, mark, stain, blemish or any other negative stereotype that provides a reason to treat someone differently.

Stigma can be considered an overarching term that includes three components:

- Problems of knowledge (ignorance or misinformation – "People with depression are dangerous.")
- Problems of attitudes (prejudice "That's right. People with depression are dangerous."). This can lead to emotional reactions (for example, "Because they're dangerous, I fear them.")
- Problems of behaviour (discrimination – "Because they're dangerous, I will avoid them.")

We will learn about the relationship between attitudes and behaviours in Topic 4: Social Influence. You will learn in this topic that the connection between knowledge, attitudes and behaviour is complex. Improving one factor, such as knowledge, may not necessarily impact on attitudes and/or behaviour.

HOW STIGMA IS CONSTRUCTED

Stigma exists due to a misunderstanding about mental illness, and the historical perspective and image that has been created around mental illness. Historically, stigma has been associated with all mental health challenges with labels such as crazy, useless, incompetent. Again historically, people with mental health issues were locked away from society in 'mental institutions', 'crazy houses', 'mental hospitals' so therefore if you were diagnosed with a mental health issue, be that depression, anxiety or a personality disorder – this was not a good thing. There was little appreciation or understanding by the general population that these are mental health disorders that cause distress, and require treatment to overcome, or manage.

Over the years a number of movies have portrayed characters with Borderline Personality Disorder (BPD).

Follow the link to read about some of the key characters who have been portrayed as having BPD. (borderlinepersonalitytreatment.com) **https://tinyurl.com/5uuc746v**. Notably Winona Ryder's character in *Girl, Interrupted* (1999) is based on the memoir of Susanna Kaysen who struggled with mental illness and Borderline Personality Disorder, and focuses on her 18 month stay in a mental hospital. Movies such as these helps increase understanding about personality disorders, but not necessarily decrease the stigma associated with the mental illness. As the main character is institutionalised throughout the movie, the stigma that may be adopted by people watching is that all people with borderline personality disorder have the same extreme symptoms, behaviours, they are a danger to themselves and others, and therefore this becomes a reason to treat them differently.

Figure 1.6.3: Winona Ryder portrays a young girl struggling with Borderline Personality Disorder in the movie "Girl Interrupted" (1999).

HOW STIGMA IS APPLIED

How stigma plays out in everyday life is through discrimination and stereotyping. People may miss out on work opportunities, be overlooked for promotions, they may be bullied either at school or work. They may become socially isolated because friends stop including them in group activities as a result of the symptoms their personality disorder creates for them.

People diagnosed with a personality disorder may also fall victim to the same stigmas as the rest of society. They may take on the views held by others and start to believe what others believe – that they are crazy, they aren't 'normal' and as such use unhealthy coping mechanisms such as drugs, alcohol, or self-harm. As a result, the danger is that people requiring support and treatment may avoid the very things and people that can help.

HOW STIGMA CAN BE OVERCOME

National policy framework
Reducing the stigma and discrimination associated with depression and anxiety is one of the key aims of Australia's national mental health policy and reform agenda.

According to Beyond Blue, the Global Anti-Stigma Alliance, of which Beyond Blue is a member has advised mental health organisations worldwide of the following key approaches for stigma reduction:

- Lived experience leadership
- Social contact
- Social marketing
- Cultural responsiveness and relevance
- Social movement
- Focus at individual, community and societal levels.

Stigma in the media can overcome by:

- Positive representation
- Understanding the balance between media being newsworthy or emotionally arousing and verifiable.

"I would love to be able one day to discuss my illness openly with all my friends, family and work colleagues without fear of retribution. This can only be done by extensive education of the wider community and associated healthcare professionals. People are always afraid of what they don't understand."

beyondblue blueVoices member

"I believe it would be beneficial to share stories on how people have renegotiated their lives and to find new ways of being...It would be so worthwhile to hear stories of people who have recurring depression and/or anxiety who are leading fulfilling lives."

beyondblue blueVoices member

- Implementing a mental health short course when training journalists.
- Including expert input from psychiatrists during a film's production.
- Focusing on the societal aspects of mental illness rather than focusing on the individual.
- Presenting mental illness only when relevant to the story.
- Using mental-health terminology with precision, fairness, and expertise.

As individuals who consume copious amounts of mass media and engage with social media, the best thing that we can do is to stop using words like "crazy" and "deranged" in a derogatory or flippant fashion.

HELPFUL ONLINE RESOURCES

The following websites provide some useful information about how to overcome the negative representation in the media which contributes to the stigma associated with mental illness and personality disorders.

https://tinyurl.com/3zrfsdjk

https://tinyurl.com/3dbfmffv

https://tinyurl.com/ysacjdk8

"At the root of this dilemma is the way we view mental health. Whether an illness affects your heart, your leg or your brain, it's still an illness, and there should be no distinction."

Michelle Obama

SCHOOL ASSESSED TASK (SAT) IDEA

Investigate one or more personality disorders

Research and present your findings to the following topics using a multimedia format including video clips from movies or other media (for example news articles, legal cases)

In your presentation you should discuss:

- the stereotypical ways in which people with mental health issues are viewed
- the role of media in promoting these stereotypes
- the effects of this stigma on the individual
- ways of reducing or removing this stigma

1.7 INVESTIGATING PERSONALITY

Various investigation designs could be used to study personality.

- Describe how a researcher could conduct:
  - an experimental design to investigate personality; that is, one in which an independent variable is manipulated and the changes in the dependent variable are observed.
  - an observational design to investigate personality; that is, interpreting observations of participants using descriptive language or quantitative measures.
- Discuss some of the ethical issues associated with research in the area of personality.

2022 Subject Outline | Stage 2

Investigation designs to study personality

Is there anything you have ever wondered about the difference between people's personalities? This activity will provide you with the opportunity to design, but not necessarily conduct some research into this topic.

Select one of the following possible research questions or create one of your own.

Experimental designs	Observational design	Qualitative design – Focus Group
An experimental design is one in which an independent variable is manipulated and the changes in the dependent variable are observed.	Observational designs require researchers to investigate the differences between existing groups, in other words observing people in a natural environment	A qualitative design is one where the researcher interprets observations using language that is descriptive rather than quantitative.
Are people who like more intense musical styles (i.e., heavy metal, rap) more assertive?	Are faster-paced styles of music (i.e., dance, hip-hop, rap, etc) correlated to particular personality traits such as extroversion and high self-esteem?	To what extent is personality a contributing factor to friendships?
Are people who prefer more complex musical styles such as classical and jazz more creative?	Is there a correlation between birth order and Type A, B, C personality types?	Is there such a thing as a personality clash between students and teachers?
Are introverted or extroverted people more likely to enjoy scary movies?	What traits are common in children who play in groups or alone at kindergarten?	To what extent are personalities from childhood consistent with personalities in the teenage years?

Do people with similar or different personality traits perform better when working collaboratively on a group task?	Is there a correlation between personality type and driving behaviours?	Is there a link between personality types and self esteem in teenagers?
Are introverts more likely to conform to group norms?	Which gender displays the most assertive behaviours in social situations?	Is there a link between people's personality and their likelihood of posting images on social media?
Does donating money to a charity increase wellbeing?	Are there personality trait differences between students of different cultural backgrounds?	Can people display different personality traits at home, at school and in social situations?
People with humerous traits are more outgoing in the presence of strangers.	Do leaders / managers have specific personality traits in common?	The number of siblings in a family influences personality
		Is there a link between personality type and students levels of procrastination?

The Science Inquiry Skills Topic provides specific details regarding different investigation designs that are used by researchers.

DECONSTRUCT AND DESIGN: WORKED EXAMPLE

Step 1 What is the problem? What are you aiming to find out?	→	**The general area of interest I would like to research is** *Do leaders / managers have specific personality traits in common?*
Step 2 Do background research and collect information on current studies **Complete Deconstruct template**	→	**The possible ways to research this include…** Centre for Creative Leadership article **https://tinyurl.com/ynm2xjsk** Are women business owners authentic servant leaders? **https://tinyurl.com/yk454bfm** *Common leadership traits found in female leaders: agency, calling, humility, trust and respect, self-development, stewardship, authenticity and providing direction.* *It would be interesting to find out the common leadership traits in women as opposed to men based on the research article found above.* **Complete the Deconstruct template on the next page.**
Step 3 Identify independent, dependent, constant and extraneous variables	→	**It is hypothesised that… The research question is…** *There are more similarities than differences in the personality traits of effective male and female leaders.*
Step 4 Determine the type of research design as experimental, observational, or qualitative. Determine the type of data to be collected: objective, subjective or qualitative Identify the type and amount of data to be collected Identify the ethical and socio-cultural considerations and how these may be addressed.	→	**The participants will need to…** *Participate in a Delphi technique survey that will consist of a combination of open-ended questions and Likert scale questions regarding personality traits of effective leadership.* **The type of data that will be collected will be…** *Both quantitative (from the survey questions) and qualitative (from the open-ended questions)*

Step 5	→	**Data will be presented as...** *Graphs for the quantitative research and a content analysis table for the qualitative data* **The raw data should show that...** *There are lots of common personality traits that good leaders show, and that both males and females share these same qualities.*
Step 6	→	**Strengths and limitations of the design might be...** *That people don't respond to the questionnaires, people are biased towards their own leadership style. People don't have the opportunity to discuss leadership traits with other people like they could if a focus group was conducted.*
Step 7	→	**The findings should suggest that...** *There are lots of common personality traits that good leaders show, and that both males and females share these same qualities.*
Step 8	→	**The findings will be reported to...** *The class teacher in an investigation report.*

What are the independent and dependent variables?

IV Options

- Different types of leaders – politicians v business leaders
- Male v Female Leaders
- Old v New Leaders
- Successful and unsuccessful leaders
- Charismatic leadership styles v effective / more serious leadership styles

DV Options

- Personality test MBTI?
- Focus Group questions?
- Delphi technique

Which area will you focus on?

Based on the research found in the pre-reading – looking into the difference between the leadership qualities of men and women seems interesting.

Are there common personality traits that males and females have in common, and are there personality traits that are found more frequently in female leaders than male leaders?

Spin off research that would be interesting to follow up would be what employees think of male v female leaders.

Who will the sample be? How will they be selected?

Population

All leaders in South Australia

Business leaders – people who own small – medium businesses

Sample

Business leaders – parents of students at my school

Female leaders at school

Will need to be a convenient sample – that's all have access to?

Could look at Delphi technique and email leaders of local businesses???

What are some extraneous variables?

How long people have been in a leadership role for

Type of workplace – school, small business, office job – are the traits the same or different?

People who have set up own business, versus people who have won a leadership role

People's honesty in answering questions

Likelihood of people responding to questionnaire

Common leadership traits

Which research design will you use?

Experiment: Not suitable – can't manipulate anything to find out which people have better leadership qualities

Observational: Possible- look at leadership traits in men and women to find out if they are similar or different. People who are already in leadership role is the pre-existing variable

Qualitative: Possible – look at using a Focus Group or Delphi technique to get people's opinions about what makes a good leader.

What ethical guidelines will you need to consider?

- Informed consent
- Confidentiality - anonymity
- Letting them know the findings of the research
- Withdrawal rights – let them know I can take their results out of the study at the end if needed.
- Interpretation of results – will be best to have 2 people analyse the results to counter researcher bias

How will the data be collected?

MBTI questionnaire to identify personality type – but 16 of these – might be hard to analyse

Open ended questions – what people think makes good leadership

Survey questions with rating scale – prioritise what they think are good leadership qualities

Which variables will need to be controlled?

- Definition of what we mean by leadership so that people are clear – need to be clear about working with people as well as being a strong leader who gets jobs done
- Definition of effective leadership
- Type of leaders used in the study
- Age of leaders
- Number of questions asked

DECONSTRUCT AND DESIGN: STUDENT ACTIVITY

Choose one of the possible research questions from the experimental or non-experimental list, or create one of your own to complete the D&D tasks below.

Teachers and students may choose to complete the following steps as an activity to practice the steps involved in a Deconstruct and Design task, but not actually complete the research.

An **examinable skill** from the Science Inquiry Skills Topic is to be able to **Deconstruct a problem** to determine and justify the most appropriate method for investigation.

- Design investigations, including: a hypothesis or inquiry question, types of variables, dependent, independent, constant, extraneous
  - the method to be followed, justification of the method, the type and amount of data to be collected
  - identification of ethical considerations and how these may be addressed.

Fill in the flow chart below to show an understanding of the steps in psychological research.

Step 1 What is the problem? What are you aiming to find out?	→	**The general area of interest I would like to research is**
Step 2 Do background research and collect information on current studies	→	**The possible ways to research this include...**
Step 3 Identify independent, dependent, constant and extraneous variables	→	**It is hypothesised that...**
Step 4 Determine the type of research design as experimental, observational, or qualitative. Determine the type of data to be collected: objective, subjective or qualitative Identify the type and amount of data to be collected Identify the ethical and socio-cultural considerations and how these may be addressed.	→	**The participants will need to...** **The type of data that will be collected will be...**

Step 5	→	**Data will be presented as...** **The raw data should show that...**
Step 6	→	**Strengths and limitations of the design might be...**
Step 7	→	**The findings should suggest that...**
Step 8	→	**The findings will be reported to...**

What are the independent and dependent variables?

Which area will you focus on?

Who will the sample be? How will they be selected?

What are some extraneous variables?

Which research design will you use?

What ethical guidelines will you need to consider?

How will the data be collected?

Which variables will need to be controlled?

Ethical issues associated with research in the area of personality

CASE STUDY

Between 1959 and 1962 Professor Henry Murray, a personality theorist, carried out a series of experiments on 22 undergraduate men at Harvard University in the USA. These were designed to measure how people respond to stressful interpersonal confrontations during mock interrogations. The aim appears to have been to understand which types of men were likely to be able to withstand brainwashing and interrogation in situations of war. Murray had been engaged in work relevant to this issue during the Second World War.

Participants were volunteers who were given a small fee and simply asked if they would be willing to contribute to the solution of 'certain psychological problems'. They were placed in brilliantly lit rooms, filmed through a hole in the wall, and were connected to electrodes that recorded their heart and respiratory rates. While the students had been told that they would be debating their views with another undergraduate, they were actually faced with an older, more sophisticated opponent who belittled their values, making the students feel humiliated and helpless, and rousing them to a great deal of anger.

After spending approximately 200 hours as research participants, they were still not clear what the research was about. Chase (2000) suggests that even 25 years later some of the participants recalled how unpleasant was the whole experience. More seriously, however, one of the participants in these experiments was Theodore Kaczynski, who became a student at Harvard in the spring of 1958, when he was only 15 years old. He was later to be nicknamed 'the Unabomber' for mailing or delivering 16 parcel bombs to scientists, academics and others over a 17-year period, killing three and injuring 23. Obviously, it is not possible to say what effect, if any, taking part in Murray's study had on Kaczynski. However, one of his major resentments against scientists was because he felt that they were trying to develop techniques for controlling people's behaviour.
Source: https://tinyurl.com/5r8b6tew

Read the Murray study above. Using the ethical guidelines presented on page 492-493 in the Science Inquiry Skills topic. Note down how the Murray study contravenes current ethical principles.

HELPFUL ONLINE RESOURCES

Conduct some online research into the four key principles for ethical research: respect for human beings, research merit and integrity, justice, and beneficence
https://tinyurl.com/58ekryvw

Discuss some of the ethical issues associated with research in the topic of personality.

ASSERTIVENESS ACTIVITY ANSWERS

Passive	Assertive	Aggressive
Allowing yourself to be bullied	Making sure things are fair – for you and others	Bullying others
Not saying what you think, or not saying anything	Looking out for yourself	Can lead to shouting, aggression, or violence
Damages your self-esteem	Standing up for yourself	Damages relationships – other people respect you less
Thinking your needs don't matter at all	Express your point clearly and confidently	Thinking that only your needs matter
Give in	Enhances relationships – other people know where they stand	Talking over people
Not talking, not being heard	Builds your self-esteem	Take
	Use "I" statements	
	Compromise	
	Talking and listening	
	Be clear and direct	
	Describe how another person's behaviour makes you feel	
	This makes other people aware of the consequences of their actions	
	Recognising that your needs matter as much as anyone else's	
	Stick to your guns – the broken record	
	"I think what you have done is good but I would like to see more of ..."	

DECONSTRUCT AND DESIGN TASK: PERSONALITY TYPES AND PROCRASTINATING

What is a Deconstruct and Design Task?

When scientists start to investigate problems, they first look at the various parts which could be examined. The aspects are explored, and questions raised about each one. Any outcomes of the investigation are not known at this point. This is deconstructing.

Scientists then choose a particular aspect of the problem, design a research question and state a hypothesis (or research question) for this aspect. The most appropriate method for an investigation is then devised including stating the variables, method and type of data to be collected. This is designing an investigation.

Finally, the research is conducted. Data are collected, discussed and analysed. A conclusion can be made which considers the data collected and any limitations of the data.

Introduction and Purpose of Task

Most people procrastinate in their lives.
For some this is a regular, daily even hourly occurrence, for others it is occasional. Previous research shows that "around 90% of college students, for example, say that they engage in procrastination in general, and around 50% of them say that they procrastinate in a chronic manner. This number is lower among the general population but is still significant, since roughly 20% of adults view themselves as being chronic procrastinators" https://solvingprocrastination.com/procrastinator/
Your task is to design a research investigation on the topic of personality types and personality.

To deconstruct this problem, you may look at existing research including, experiments, observations and case studies which support your hypothesis or research question about the link between personality types and procrastination.

This task has three parts

Part 1. Deconstruct a problem, identify and justify a research question.

Part 2. Design an experiment on the research question and associated hypothesis

Part 3. Complete an investigation report (maximum 1500 words)

Steps to complete the task

1. Complete a deconstruct task using the example template, or one of your own
2. Use your deconstruction to construct a research question and / or hypothesis.
3. Justify your choice.
4. Design your investigation.
5. Complete the research
6. Write an investigation report

Part 1 (Deconstruct) and Part 2 (Design of your investigation) are to be presented together on no more than 4 single sided A4 pages (minimum of size 10 font).

- Allocate approximately 1 page to Part 1.
- Include a reference list as part of the 4 pages.

Part 3: Investigation Report

The report may include:

- Introduction with relevant psychological concepts, and either a hypothesis and variables, or an investigable question
- The method or process that was implemented
- Identification and management of safety and/or ethical risks
- Results, including table(s) and/or graph(s)
- Analysis of results, including identifying trends and linking results to concepts
- Evaluation of procedures and their effect on data, and identifying sources of uncertainty
- Conclusion, with justification

The report should be a maximum of 1500 words if written, or a maximum of 9 minutes for an oral presentation, or the equivalent in multimodal form.

QUIZ TIME

1. Which of the following are linked to Freud's key concepts?
a. Conscious, Sub-conscious, Unconscious
b. Early childhood experiences
c. Defence mechanisms
d. All of the above

2. The force of personality that uses defence mechanisms is the
a. ID
b. Ego.
c. Superego.
d. All of the above.

3. An example of a defence mechanism is
a. Repression
b. Forgetting
c. Aggression
d. All of the above.

4. Kym has been suspended from driving several times due to speeding. Kym has got their license back and since then has not driven over the legal limit. The force controlling their personality is?
a. The ID.
b. The Ego.
c. The Superego.
d. Her defence mechanisms.

5. Jo finds a watch on the ground and knows that if they kept it, no one would know. Jo decides to hand it in to the local police station as it because it is the right thing to do. The force controlling Jo's personality is
a. The ID.
b. The Ego.
c. The Superego.
d. His defence mechanisms.

6. Sam has recently stopped smoking but is finding it difficult to stop biting the tops of pens. According to Freud, what stage is it likely that Sam is fixated?
a. Oral Stage.
b. Anal Stage.
c. Phallic Stage.
d. Genital Stage.

7. Freud's 'Oedipus complex' is experienced in the
a. Oral Stage.
b. Anal Stage.
c. Phallic Stage.
d. Genital Stage.

8. What traits are measured by the 'Big 5 Test' are
a. Kindness and Openness
b. Extraversion and Positivity
c. Neuroticism and Agreeableness
d. The ID and The Ego

9. Which 2 personality traits tend to DECREASE over time?
a. Extroversion
b. Neuroticism
c. Introversion
d. Agreeableness

10. The technique that Eysenck used to measure different personality traits is called
a. Factor Analysis
b. Trait Theory
c. Content Analysis
d. The Big 5 Test

11. The FFM Model of Personality was theorised by
a. Cattell.
b. Costa and McCrae.
c. Freud
d. Eysenck.

12. Introverts tend to be 'less sociable' than extroverts because

a. They are shy.
b. They are socially awkward and feel confronted.
c. Other people annoy them.
d. Their level of neural stimulation is already quite high, so a small amount of socialising is all they need to achieve optimal brain activity

13. Somebody with a high level of Neuroticism would be described as

a. Laid Back, Open and Patient.
b. Excited, Energetic and Exhausted.
c. Reliable, Friendly and Open.
d. Moody, Anxious and Irritable.

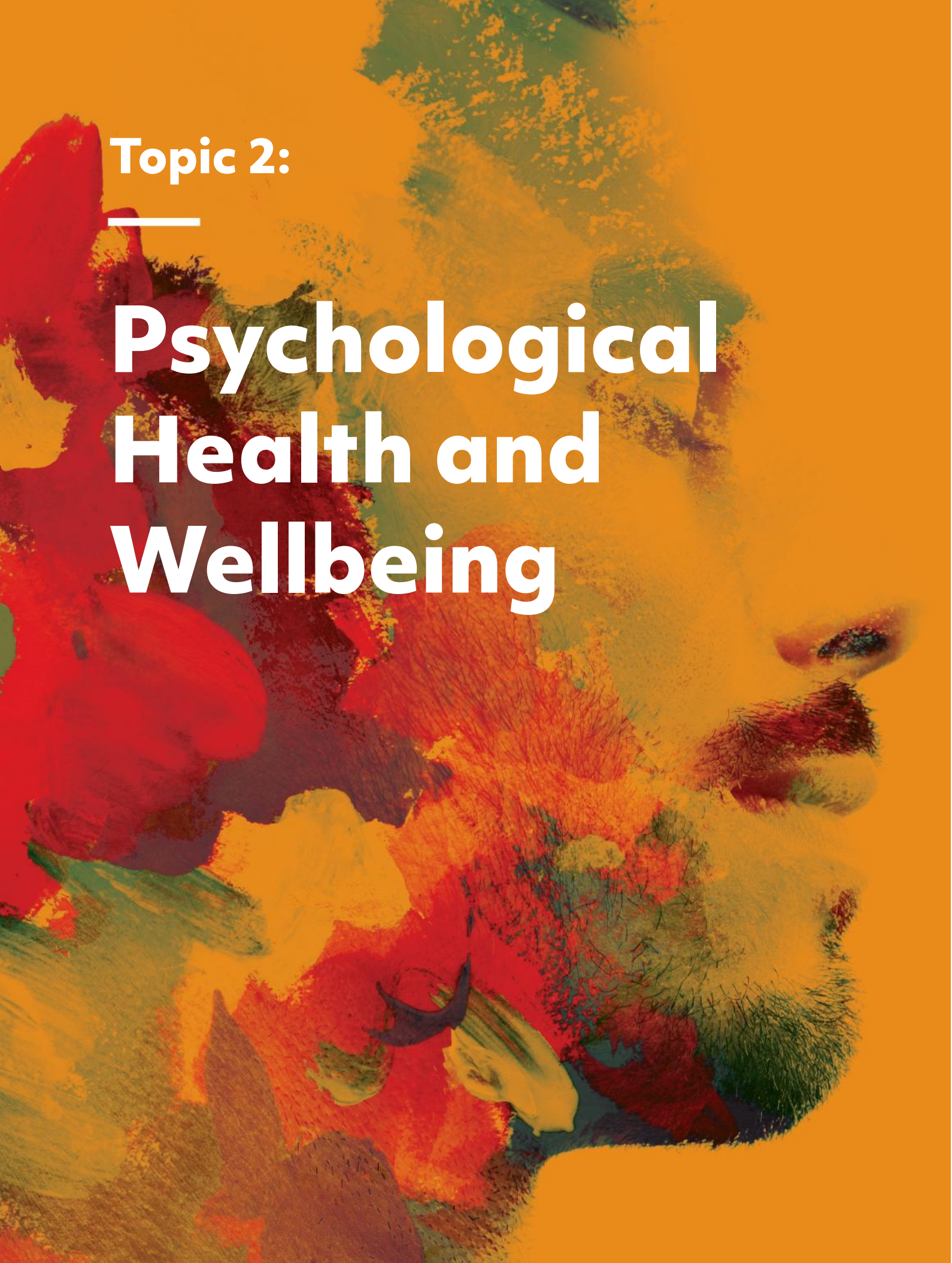
14. The scientific name for the 'FFM Test' is the

a. TAT Test
b. The NEO-PI-R
c. Factor Analysis
d. Costa and McCrae's Test

15. Who developed the MBTI test?

a. Cattell.
b. Costa and McCrae.
c. Myer-Briggs
d. Eysenck

Quiz answers: 1:d. 2:b. 3:a. 4:b, 5:c. 6:a. 7:c. 8:c. 9: a and b. 10:a. 11:b.12:d. 13:d.14:b. 15:c.



Topic 2:

Psychological Health and Wellbeing

2.1 CULTURAL INFLUENCES ON MENTAL HEALTH

Mental health may be affected by a number of factors.

- Explain what is meant by the term 'mental health'.
- Discuss how mental health could be affected positively and negatively by:
  - biological factors
  - sociocultural factors
  - psychological factors.

Explain the statement:
Mental health is influenced by culture.

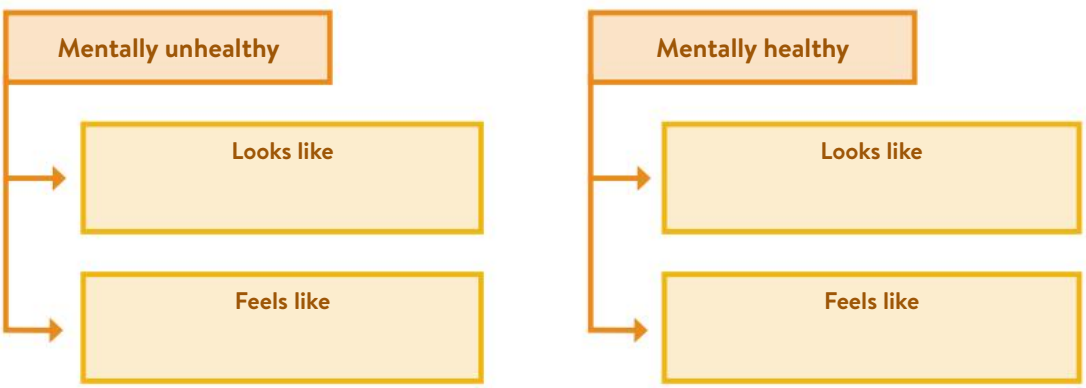
- Explain
- Discuss
- Describe.
- Discuss the influence of culture on mental health and how this has changed over time such as in what the DSM has considered as mental disorders (e.g. homosexuality) in various editions.
- Describe the impact racism has on mental health for cultural groups such as Aboriginals and refugees.

The DSM-IV states that the relationship between clinician and patient could be affected by cultural differences.

- Discuss some of the problems that could occur when clinician and patient do not come from the same cultural background.

2022 Subject Outline | Stage 2

Brainstorm the following questions with another member of the class, then complete the boxes with ideas of:
What do you think a mentally unhealthy looks and feels like?
What do you think a mentally healthy person looks and feels like?



One of the problems faced in psychopathology (also referred to as psychological abnormalities or disorders) is how to define '**abnormal behaviour**'.

Mental health is more than the absence of mental disorders and is intrinsic to overall health and wellbeing. The World Health Organisation (WHO) states *'Mental health is a state of well-being in which an individual realises his or her own abilities, can cope with the normal stresses of life, can work productively and is able to contribute to his or her community'*.

The **Diagnostic and Statistical Manual** (**DSM-5**) describes some specific abnormal psychiatric conditions and defines these "mental disorders" as "… syndrome[s] characterised by clinically significant disturbance[s] in an individual's cognition, emotion regulation, or behaviour that reflects a dysfunction in psychological, biological, or developmental processes underlying mental functioning. Mental disorders are usually associated with significant distress or disability in social, occupational, or other important activities. An expectable or culturally approved response to a common stressor or loss, such as the death of a loved one, is not a mental disorder. Socially deviant behaviour (e.g. political, religious, or sexual) and conflicts that are primarily between the individual and society are not mental disorders unless the deviance or conflict results from a dysfunction in the individual, as described above" (American Psychiatric Association, 2013, p. 20).

Research task: Complete research on the following definitions of abnormality.

	Definition	Example	Limitations of definition
Deviation from social norms			
Deviation from ideal mental health			

Identify 3 behaviours that are considered social norms in our society, e.g., queuing

1 .....

2 .....

3 .....

Figure 2.1.1: Variations of cultural norms and deviations.

The photos above are all likely to fit the criteria of abnormality if taken at face value, however, when they are put into context, they no longer fit the criteria. The pink face, horned girl is attending a cosplay event which requires players to wear costumes as part of their performance, whereas the boys are engaging in a game of football barefoot which aligns with the social norms of their culture. In contrast the Tattoo cat man has spent more than $200,000 (US) to look like a cat and has recently

Figure 2.1.2: Body modification of a Kenyan woman by By Rod Waddington from Kergunyah, Australia.

added implanted whiskers. In many cultures this would be seen as 'abnormal' or deviating from social norms, however there are many cultures around the world that make modifications to their body, some which help attract suiters for marriage.

A major problem with psychological definitions of mental disorders are that they are culturally constructed, therefore, what constitutes as 'socially deviant' is that they often fail to consider differences between cultures, therefore defining what is 'abnormal' may not be culturally relevant. It could be argued that if social norms are cultural constructs, mental disorders are also culturally constructed.

Early psychological researchers were unaware of the impact of culture on the interpretation of behaviours and assumed that all behaviours were universal. Research conducted by Cochrane (1977) reported that within western society Black Afro-Caribbean immigrants were approximately five times more likely to be diagnosed with schizophrenia than native people. Cochrane proposed that one reason that could account for this difference is that doctors are using Western cultural norms when evaluating and interpreting people's behaviour. Cultural bias and interpretation could lead to a mistaken diagnosis – as any behaviour which deviates from Western norms could be mistaken as being abnormal.

The DSM-IV states that the relationship between clinician and patient could be affected by cultural differences, yet despite the revision to the DSM-V to enhance cultural context of diagnosis, Lopez and Guarnaccia 2000, argue that the manual remains **ethnocentric** and rests upon a narrow understanding of culture. Therefore, concerns exist around the accuracy of making a diagnosis for people where there are cultural differences and/or a lack of knowledge about a person's culture between the clinician and the patient.

Consider a patient walking into a clinician's office and sharing that they are troubled by the information and instructions that their ancestors are sharing with them. According to the DSM-V and ICD-11 hearing voices is a symptom of schizophrenia, however, this is culturally acceptable in some African tribes and Indigenous people in Australia. These experiences highlight the need for cultural relativism to be applied when clinicians are working with culturally diverse groups and minorities. Furthermore, the DSM-V is highlighting for clinicians to take caution to "distinguish symptoms of brief psychotic disorder from culturally sanctioned response patterns" (APA,201). For example, symptoms for schizophrenia (delusions, hallucinations, disorganized speech) may be displayed by some African American, American Indian, and Latino/a/Hispanic individuals "who engage in religious or healing ceremonies" (Paniagua, 2014, p. 239) and briefly display such symptoms during their acts.

To minimise cultural bias diagnostic clinicians need to understand the culture background of their patient including their attitudes and belief systems. Many culturally diverse health practitioners argue that research on diverse communities should be carried out about by people from within the culture. Figure 2.1.3 on page 94 shows how clinicians and researchers can address many of the cultural implications with the diagnosis already discussed. This understanding is key to developing mental health services that are more responsive to the cultural and social contexts of racial and ethnic minorities.

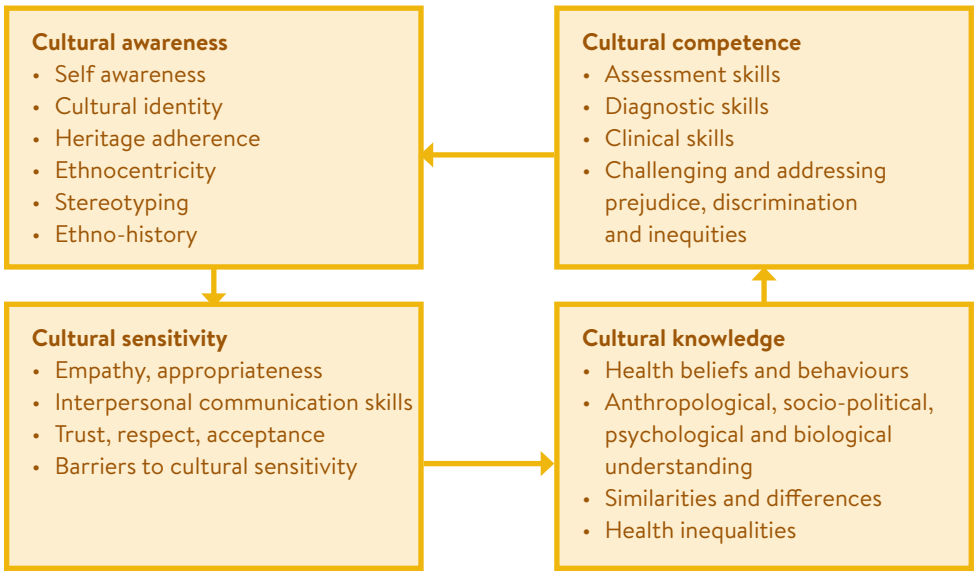


Figure 2.1.3: Increasing cultural competence for clinicians and researchers.

KEY TERMS

ETHNOCENTRIC: Applying cultural expectations and evaluations of other cultures based on one's own.

CULTURE BOUND SYNDROME: a collection of signs and symptoms that is restricted to a specific culture.

CULTURAL RELATIVISM: means that judgments are relevant to individual cultural context, and we cannot make absolute statements about what is normal or abnormal.

HELPFUL ONLINE RESOURCES

Read about some very unique psychological disorders known as Culture bound syndromes: https://tinyurl.com/bd4z6nr2

In the space provided identify three psychological disorders that are specific to Western cultures using the following link: The Influence of Culture and Society on Mental Health https://www.ncbi.nlm.nih.gov/books/NBK44249/

1 .....

2 .....

3 .....

It is important to acknowledge that culture plays a significant role in mental health, for example, whether people seek help, how they describe their symptoms, if mental illneWss is culturally accepted and how much stigma they attach to mental illness. Cultural development has seen significant changes to the acceptance and treatment of mental illness. In ancient times they believed that psychological distress was caused by demons thus treatment in the form of exorcism and trephination was used. In the late 18th century–mid-19th century Moral therapy was introduced to asylums where patients would be treated with a combination of rest, talk, prayer, and manual work (Tuke,1964).

Figure 2.1.4: Historical treatments for mental illness, including trephination, a procedure involving drilling a hole into the skull to treat various ailments.

CHECKING FOR UNDERSTANDING

Research the influence of culture on mental health and how this has changed over time. HINT: You could provide information on some of the mental disorders reclassified in the DSM such as homosexuality, autism, or the addition of some disorders due to cultural shifts. An example for PTSD has been provided to start you off.

In the DSM-IV PTSD was classified under anxiety disorders compared to the classification in the DSM-V under Trauma- and Stressor-Related Disorders. Discuss potential reasons behind the reclassification?

Mental illness	Reclassification/new addition	Potential cultural change
Post Traumatic Stress Disorder (PTSD)	From Anxiety to Trauma and stress disorder	More frequently occurring throughout society, particularly in Western cultures due to increase in war, abuse and natural disasters. More likely to be added as DSM focus on Western cultural ideals.
Homosexuality		
Autism		
(one of your choice)		

Research into racism and the links to mental health has shown that cultural minorities are more at risk of poor mental health, particularly where discrimination and/or racism is experienced. It shows that this form of discrimination denies those from racial and ethnic minority backgrounds access to rights such as the ability to participate equally and freely in community and public life, equitable service provision and freedom from violence.

SCIENCE INQUIRY SKILLS

Ferdinand, A.S., Paradies, Y. & Kelaher, (2015) conducted research to examine how people from racial and ethnic minority backgrounds in four Australian localities experience and respond to racial discrimination, as well as associated health impacts. Data were collected from 1,139 Australians regarding types of racial discrimination experienced, settings for these incidents, response mechanisms and psychological distress as measured by the Kessler 6 (K6) Psychological Distress Scale.
Results: Age, education, religion, gender, visibility, and rurality were all significantly associated with differences in the frequency of experiencing racial discrimination. Experiencing racial discrimination was associated with worse mental health. Mental health impacts were not associated with the type of discriminatory experience, but experiencing racial discrimination in shops and in employment and government settings was associated with being above the threshold for high or very high psychological distress.
Conclusions: Physical health outcomes include increased prevalence of diabetes and cardiovascular effects as well as an increase in behaviours that would be expected to have a negative effect on health, such as smoking cigarettes and the use/misuse of alcohol and other drugs. In terms of mental health effects of racial discrimination, studies have noted that targets are at increased risk of developing a range of mental health problems such as anxiety and depression. In some studies, a dose–response effect has been noted, with individuals who report higher levels or more severe forms of racial discrimination experiencing higher risk of poor health than those who experience discrimination less frequently.

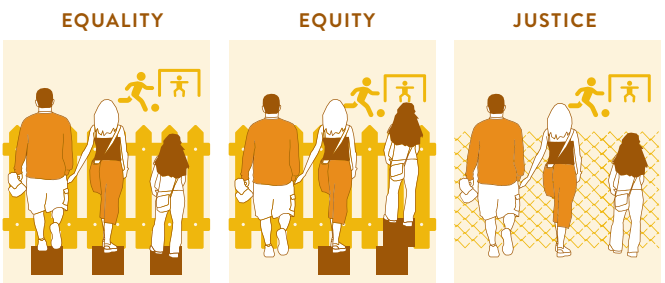


Figure 2.1.5: The difference between equality, equity and justice.

Critically evaluate the study by Ferdinand et al.

Read the following statement regarding the role of racism and discuss the following questions:

"Racism that is deeply embedded in the larger culture".

Discuss the impact this could have on Indigenous Australians **or** refugees' mental health.

Discuss how ethical issues differ between experimental and non-experimental research.

Identify supportive structures that could be put in place to address change. (see section 4.4 prejudice and discrimination in the social influence chapter to support you with your answer. *Note: this is an examinable concept.)*

HELPFUL ONLINE RESOURCES

Stress and the Mental Health of Populations of Colour: Advancing Our Understanding of Race-related Stressors: https://tinyurl.com/hr5yzbf4

Mental health impacts of racial discrimination in Australian culturally and linguistically diverse communities: a cross-sectional survey. https://tinyurl.com/yr8ftswk

Mental Health, Strengthening our response. https://tinyurl.com/5ydcpefj

So far, we have focused on the impact of **culture** on mental health, however, there are numerous **sociocultural, biological** and **psychological** risk factors that increase a person's susceptibility to developing poor mental health.

The **biological (biomedical) model** presumes that all forms of abnormality are best understood as illnesses or diseases and as such all treatments are based on medical therapies such as drugs and ECT.

Biochemistry, includes changes in levels of hormones and neurotransmitters (e.g., dopamine, serotonin, GABA).
Infection, historically untreated syphilis has been linked to personality disorders, psychosis, and dementia.
Neuroanatomy, includes changes in the brain structure, e.g. tumours, head trauma, complex concussion, degenerative disease.
Genetics, leaves an individual susceptible to mental illness but it is not guaranteed to occur. Often studied using twins.

SCIENCE AS A HUMAN ENDEAVOUR: REAL WORLD APPLICATION

Family, twin and adoption studies have helped us to understand how much abnormality might be due to genetic factors. For example, a review of twin studies into schizophrenia by Gottesman and Shields (1976) found that in monozygotic twins (MZ) there was a concordance rate of 46% compared with dizygotic (DZ) twin rates that ranged from 14%.

The **psychological model** involves basic psychological functions like perception, cognition, attention, emotion, motivation, as well as complex psychological processes such as decision making, volition and behaviour control. Whilst much of this is universal across all humans, the psychological approach questions, how, when and why dysfunction occurs and proposes that individual differences cause the development of a mental illness. According to Wittchen and Hoyer (2011), to be considered clinically relevant psychological treatments and interventions must be empirically supported. Psychological intervention of any type should be based on knowledge and expertise of the psychological sciences, and use psychological methods and means (as opposed to drugs as in psychiatry). Psychological interventions typically include communication and/or behavioural exercises.

The **sociocultural model** looks at how greater sociological forces such as institutions, economies, and cultures shape individuals' behaviours, including their problems. The sociocultural model contends that individual problems are caused by the larger systems in which the individual is living. According

CHECKING FOR UNDERSTANDING

Complete the following box: you can refer back to page 68 for a reminder of key risk and protective factors.

Risk factors

☒	☒	☒	☒
☒	☒	☒	☒
☒	☒	☒	☒
☒	☒	☒	☒
☒	☒	☒	☒
Child	**Family**	**School**	**Community**
☑	☑	☑	☑
☑	☑	☑	☑
☑	☑	☑	☑
☑	☑	☑	☑
☑	☑	☑	☑

Protective factors

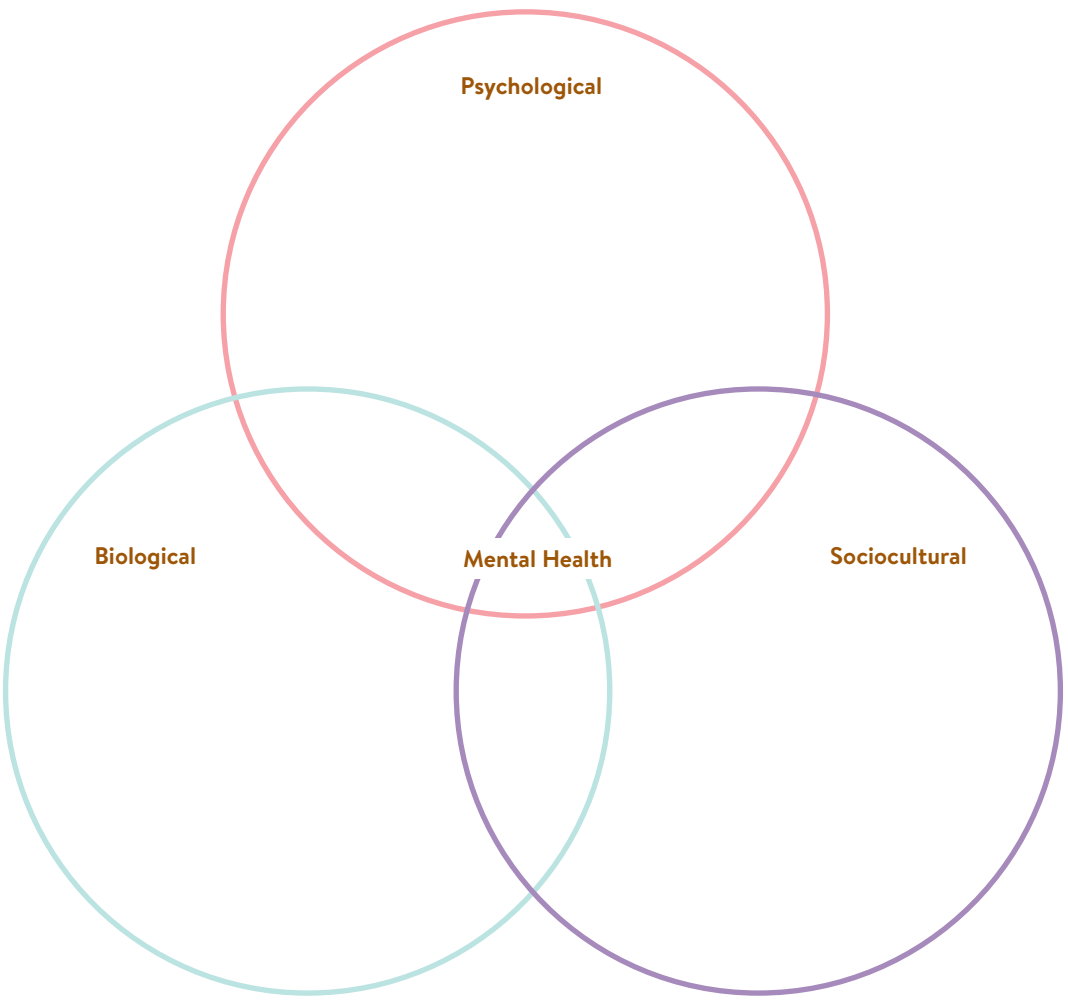
to this model, nothing is wrong with the individual, per se. Abnormality is an outcome of an individual's living within systems that create problems. Individual problems are produced by factors such as poor family communication, racism, poverty, societal change, oppression, and dysfunctional institutions such as schools, governments, housing, churches, etc.

The **biopsychosocial model** of health and illness is a framework developed by George L. Engel that states that interactions between biological, psychological, and social factors determine the cause, manifestation, and outcome of wellness and disease. It is highly unlikely that an individual develops a mental illness based on one model alone, hence we tend to explore mental illness from the Biopsychosocial model due to the complex interaction between factors. The reality that mental disorders are caused by multi-level mechanisms makes the biopsychosocial approach valid which has resulted in a holistic and empathetic approach in psychiatric practice.

Risk factors adversely impact a person's mental health while **protective factors** strengthen a person's mental health and work to improve a person's ability to cope with difficult circumstances.

Risk and protective factors are influenced by all areas of life – psychological, social, environmental, cultural and situational factors.."

Using the information that you have completed in the previous activity and using the information on page 68 as a reference allocate **risk and protective factors** to the correct section within the biopsychosocial model sections on the following page.



CHECKING FOR UNDERSTANDING

Mental health can be affected by any combination of the factors in the diagram above. Choose one factor from any component of the model and discuss how the same factor can *negatively and positively* affect mental health using the biopsychosocial model. An example has been provided for you.

Education can be considered to have a positive affect on mental health as the opportunity to engage in education not only provides the individual with diverse learning opportunities, but it also provides increased opportunities in wider society. This could include entry to further study which has further positive effects as it enhances employment opportunities. With increased employment opportunities and income, the individual may be able to access a range of both essential and luxury services within the community such as paying bills or accessing specialist health services with little concern, eating/going out with friends and purchasing items other than those of necessity. Individuals who are happy tend to have higher levels of dopamine which is produced when we feel happier whilst oxytocin is produced when making relationships and bonds between others. This in turn enhances the psychological state relating to positive and rational thinking regarding their options in life and general self-belief. However, lack of engagement in education can also be a risk factor in the development of mental illness. Research has shown that people who have had limited education are more at risk of developing mental illness due to limited access to resources such as those mentioned previously. Individuals with limited education are less likely to have extensive or diverse skills and hence restricted in the type of employment that they can engage. This may compromise their ability to pay for basic living expenses causing increased stress. Prolonged stress alone can increase risk to depression and anxiety yet coupled with limited resources and access stress reducing services such as gym membership, massage, and other wellbeing provisions the risk increases. Individual relationships may become compromised causing further distress and potentially social isolation causing the individual to question their self-worth and develop low self-esteem.

Checking for understanding: choose at least one Biological and Psychological factor and explain how it can be both a risk factor and protective factor in the development of mental illness.

SCIENCE AS A HUMAN ENDEAVOUR: REAL WORLD APPLICATION

Diathesis stress model

Cultural similarities in the incidence of mental disorders suggests that many disorders have a strong biological origin. The diathesis stress model explains why some individuals who are biologically at risk do not always develop a mental illness. The **diathesis stress model** is the belief that for certain disorders individuals may be genetically more at risk but it is the exposure to environmental triggers such as stress that causes the individual to develop a mental illness rather than biology alone. Essentially, biology provides the switch, and the environment triggers it.

SCIENCE AS A HUMAN ENDEAVOUR

Development and Application concept: The application of psychological understanding can enable scientists to develop solutions, progress discoveries, design action, evaluate and respond to economic, social, cultural, and environmental and sustainable factors.

Discuss how the Biopsychosocial model can be used to enhance health promotion creating well-being in individuals, communities, and societies leading to a revolutionary impact on a society's overall health and lifestyle.

Example: Health promotion must address all three factors of the biopsychosocial model, as a growing body of empirical literature suggests that it is the combination of physical health, perceptions of health and sociocultural barriers to accessing health care that influence the likelihood of a patient engaging in health-promoting behaviours such as taking medication, proper diet or nutrition, seeking psychological support from specialists, and engaging physical activity.

HELPFUL ONLINE RESOURCES

The growing need for a unified biopsychosocial approach in mental health care.
https://tinyurl.com/3k6k4d3b

2.2 INFLUENCE OF SOCIAL MEDIA ON MENTAL HEALTH

Social media use has become increasingly influential.

- **Evaluate the positive and negative influences of social media on mental health.**
- **Discuss whether excessive involvement in social media should be considered an addiction.**
- **Describe how behaviour modification could be used to improve a teenager's social media use.**
- **Discuss the ethics of using behaviour modification for this purpose.**

2022 Subject Outline | Stage 2

Influences of social media on mental health

We depend on our phones for work, school, and our personal and social lives. When was the last time you left home without your phone and were content to leave it behind until you get home? The internet has become a significant part of our daily lives. So too has social media. So, what is the impact of social media on our mental health?

Social Media (SM) has an undeniable influence on daily life with both positive and negative effects on users, especially with regard to its impact on mental health. As early as 1998, Kraut and others conducted research and reported that online activities cause users to engage in fewer social interactions leading to problems with psychological well-being. There have also been many studies on SM use in people with mental health problems. Research shows that participation in social media can help promote healthy behaviours, including weight loss and exercise as there are supportive applications to track progress, like-minded social groups to share progress, receive praise and recognition for achieving your goals.

The study of negative effects of social media use has received greater attention especially with psychological distress leading to obvious outcomes such as the sharing of risky behaviours, cyber bullying and self-comparison with others.

HELPFUL ONLINE RESOURCES

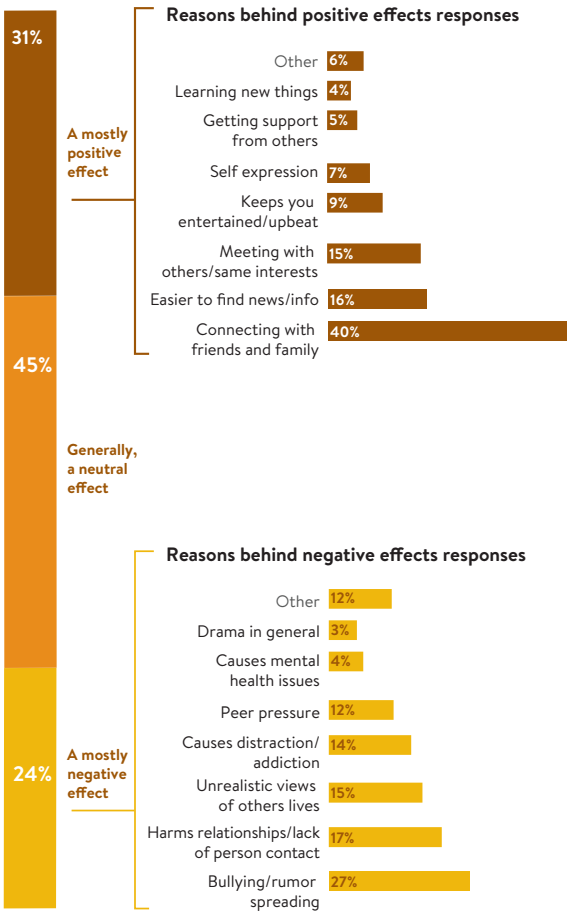
Watch this discussion about The Impact of Social Media on Our Mental Health from the Talkspace Future of Therapy Conference 2016
https://tinyurl.com/m8yp2xw2

SOCIAL MEDIA USAGE

Social media use is nearly universal among teenagers. Pew Research Center in the United States reports 97% of 13 to 17 year-olds use at least one of seven major online platforms and the average teenager spends about nine hours on social media each day. Children between 8 to 12 are spending on average about six hours a day.

Have a look at the findings from the Pew Research Centre in Figure 2.2.1. Social media can be a good thing, but if you ever feel uncomfortable about something you see or read on your social media platforms, you should trust your own feelings and talk to someone – a parent, a teacher, or another trusted adult. Bullying, threats and cruelty on social media are all signs that the person doing those things needs help, but you bear the results of their insecurities and cruelty when they post about you.

TEENS HAVE MIXED VIEWS ON THE IMPACT OF SOCIAL MEDIA AND TECHNOLOGY USE



% of teens who said social media use has impacted them or people their age.
Source: Survey conducted March 7-10th April, 2018. "Teens, Social Media & Technology 2018.

Figure 2.2.1: Findings from research in 2018 in the United States of America about the pros and cons of social media. Research by Pew Research Centre.

WHY CAN SOCIAL MEDIA BE BAD?

Along with the good comes the bad. With all of its benefits, the nature of social media presents a range of potential issues.

- **Online vs Reality.** Social media itself is not the problem. It is the way people use it in place of actual communication and in-person socialising. "Friends" on social media may not actually be friends and may even be strangers.
- **Increased usage.** The more time spent on social media can lead to cyberbullying, social anxiety, depression, and exposure to content that is not age appropriate.
- **Social Media is addictive.** Whether you are playing a game or accomplishing a task, you seek to do it as well as you can. Once you succeed, your brain will give you a dose of dopamine and other hormones responsible for, making you happy. The same mechanism functions when you post a picture to Instagram or Facebook. Once you see all the notifications for likes and positive comments popping up on your screen, you'll subconsciously register it as a reward.
- **Fear of Missing Out. FOMO** has become a common theme, and often leads to continual checking of social media sites. The idea that you might miss out on something if you're not online can affect your mental health with research showing a correlation of increased anxiety and depression in youth.
- **Self-image issues.** Social media sites provide tools that allow people to earn others' approval for their appearance and the possibility to compare themselves to others. It can be associated with body image concerns. The "selfieholics" and people who spend most of their time posting and scrolling are the ones most vulnerable to this.

SOCIAL MEDIA AND BULLYING

While bullying is not a new concept, social media and technology have brought bullying to a new level. It becomes a more constant, ever-present threat -- cyberbullying. The Legal Services Commission of South Australia states: In the most severe cases, bullying behaviours can now be treated as a crime. This can include bullying that happens via the internet, social media, or mobile phones.

HELPFUL ONLINE RESOURCES

Click here to access the legal definitions of cyber-stalking and cyber-bullying: https://tinyurl.com/2jfs2mws

Call the free **Legal Help Line on 1300 366 424** to find out more.

HELPFUL ONLINE RESOURCES

Consider watching "The Social Dilemma" You are able to download an accompanying discussion and action guide to facilitate discussion in class about the impact of social media on mental health. https://www.thesocialdilemma.com/start-a-conversation/

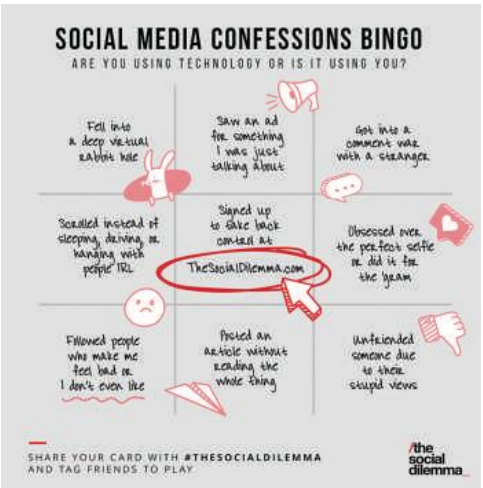


Figure 2.2.2:. Social Media Confessions Bingo – consider how many of the statements in this diagram are activities you have done yourself. Further details about using this chart are found in the Discussion and Action Guide.

(Note: Being able to explain why social media use could have a negative effect on mental health, is also covered in the Social Influence Topic 4 which means this is an examinable concept).

SCHOOL ASSESSED TASK IDEA:

Evaluate the positive and negative influences of social media on mental health?

Consider the following prompting questions as the foundation for your research. You may choose to focus on some or all of the prompting questions below.

Prompting questions:

- At what point does social media use switch from being healthy to becoming problematic?
- How can social media use be beneficial to individuals and society?
- How is social media harmful to individuals and society?
- What does the research say about the impact of social media has on mental health?
- How can social media be used to improve mental health? You might like to consider social media agencies such as Lifeline and Beyond Blue and what is needed to make them accessible and effective

Present your findings in a 6-minute multi-modal presentation - for example in the form of a TED Talk

In this task you are required to:

- Present the findings of at least 3 research papers
- Present a case study that illustrates your point of view
- Provide recommendations about appropriate social media use.

Social media and addiction

Addictions can be chemical or behavioural. Traditionally, the term **addiction** has been used for people whose drug or alcohol use has become a serious problem. But today, many mental health specialists agree that *behaviours* can be addictive, too.

82%
of students struggle with spending too much time on technology

74%
of students want to go off social media but haven't because they would miss out of knowing what is happening in the world around them

65%
of students agree social media is having a negative impact on their mental health

Figure 2.2.3: While the digital world and social media, is one that older generations have come to know and integrate into their lives, this is the only world that many of today's students have known. Their relational world and sense of connection has been built through the online medium more than any generation before. McCrindle 2020 Future of Education Report.

There is no single agreed definition for behavioural addictions. But they are generally defined similarly to drug and alcohol addictions. As you read through the definition of addiction below, consider whether social media use should be classed as an activity that is addictive.

- **You can't stop doing it**—at least not for long. You might try for a while, but you keep going back for more.
- **You can't stop thinking about it.** When you're not doing it, you're thinking about it.
- **You have trouble managing your emotions.** Social media use replaces your other coping skills. You become more sensitive to stress. You have a harder time identifying exactly what it is you're feeling.
- **It interferes with your daily life or your relationships.** Over time, your social media use gets more and more out of control. Your time and money go toward supporting your use of social media in place of your other responsibilities (like your study time). Other people start to become frustrated with your behaviour.
- **You have less and less awareness of the negative consequences.** The longer your behaviour continues, the less you notice how it's affecting you and the people around you. Even extremely negative consequences, like losing your job or failing classes, are not enough to motivate you to stop. Often other people notice that the social media use is a problem before you do.

Addiction is a mental illness that involves the reward pathways of your brain. Anything that activates these reward pathways can become addictive. Some things, like sex and gambling, are more likely to do this than others. But really, pretty much anything that feels good can become addictive. It depends less on the behaviour itself, and more on how that behaviour makes *you* feel.

AMERICAN PSYCHIATRIC ASSOCIATION'S *DIAGNOSTIC AND STATISTICAL MANUAL OF MENTAL DISORDERS (DSM-5)*

Used by mental health professionals to diagnose mental disorders the DSM-5 was last published in 2013. Addiction to gaming was listed as a "condition for further study" – indicating that this was on the list of addiction requiring more research before being included as a diagnosable addiction. There is neurological research showing similarities in changes in the brain between video gaming and addictive substances, however gambling disorder is the only behavioural addiction identified in *DSM*-5 at the moment.

HELPFUL ONLINE RESOURCES

Read page 795 of the DSM-5 for further details of the recommendations for research:
https://tinyurl.com/xdztdafy

The *DSM*-5 notes that gaming must cause «significant impairment or distress» in several aspects of a person›s life. At this stage, this condition is limited

to gaming and does not include problems with general use of the internet, online gambling, or use of social media or smartphones which is what we are interested at looking at. Under the proposed criteria, a diagnosis of internet gaming disorder would require experiencing five or more of these symptoms within a year. The condition can include gaming on the internet, or on any electronic device, although most people who develop clinically significant gaming problems play primarily on the internet.

INTERNATIONAL PERSPECTIVES – THE WORLD HEALTH ORGANISATION

In June 2018, the World Health Organisation (WHO) included gaming disorder in the (11th Revision) of the International Classification of Diseases* (ICD). In some countries, including South Korea and China, video gaming has been recognised as a disorder for several years, and treatment programs have been established. Psychologists scientists across the world are currently studying the prevalence and effects of Internet gaming disorder. This process has included participants from six continents and has considered diverse online behaviours (e.g., gaming, gambling, social networking, and pornography viewing, among others).

Researchers worldwide have developed and validated several scales to assess various forms of adults' digital addiction. Additionally, several studies have shown that children are starting to use digital devices (DDs) (e.g., tablets and smartphones) at a very young age, including playing video games and engaging in social media. Consequently, the need for early detection of the risk of digital addiction among children is becoming more of a necessity.

CHECKING FOR UNDERSTANDING

Read the details about this study: Nazir S. Hawi, Maya Samaha, and Mark D. Griffiths. Cyberpsychology, Behaviour, and Social Networking. Dec 2019.771-778. https://tinyurl.com/x6hask8h
In one study in 2019, researchers designed and tested a digital addiction scale for children. Results for this research are included in the link provided and are shown in the table below.
A column has been left blank for you to respond to the same questions. All items are rated on a five-point Likert scale: 1 (never), 2 (rarely), 3 (sometimes), 4 (often), and 5 (always).

Item content	Mean	SD	Your score / 5
Preoccupation			
"When I am not at school, I spend a lot of time using my device	3.36	1.19	
"When I do not have my device, I think about what I do on it (video games, social media, and texting, etc.)	2.57	1.35	
"Using my device is the most important thing in my life	1.71	1.14	
Tolerance			
I feel the need to spend more time using my device	2.46	1.24	
I have spent more and more time on my device	2.59	1.25	
Withdrawal			
"I feel upset when I am not able to use my device	2.74	1.4	
"I feel upset when I am asked to stop using my device	2.66	1.36	
"I feel frustrated when I cannot use my device	2.37	1.32	
"I feel frustrated when I am asked to stop using my device	2.3	1.33	

Item content	Mean	SD	Your score / 5
Problems			
"I am sleeping less because I am using my device	2.2	1.37	
"I have problems with my parents about the amount of time I spend using my device	2.04	1.2	
"I spend too much money on things for my device	1.86	1.22	
"I continue using my device despite the fact that my grades at school are getting lower and lower	1.79	1.1	
Conflict			
"My parents try to stop or limit me using my device, but they fail	2.22	1.36	
"I argue with my parents when they ask me to stop using my device	2.05	1.24	
Deception			
"I lie to my parents about the amount of time I spend using my device	1.49	0.95	
"I lie to my parents about what I do on my device	1.47	0.94	
Displacement			
"I do not spend time with my family members because I prefer using my device	1.6	0.96	
"I have lost interest in hobbies or other activities because I prefer using my device	1.59	1.03	
"I check my device when I am doing homework or other important things	2.26	1.37	
Relapse			
"I am not able to control using my device	2.05	1.23	
"When I stop using my device, it is not long before I start using it again	2.71	1.29	
Mood modification			
"Using my device helps me to forget my problems	2.99	1.43	
"Using my device is more enjoyable than doing other things	2.3	1.23	
"Using my device makes me feel better when I feel bad	3.21	1.26	

SIS question: Analyse the mean results in the table above and draw a conclusion about the reasons why teenagers are using their devices.

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SIS question: With regard to the top 3 reasons, explain what the Standard Deviation (SD) tells you about the spread of data.

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How are behavioural addictions similar to addictions to chemical substances such as drugs and alcohol?

In your own words, explain your understanding of the definition of addiction.

Discuss whether excessive involvement in social media should be considered an addiction with respect to proposed DSM changes. In your response, reference examples of research and scientific evidence that point to whether social media is addictive, or is a problem, but not addictive according to the DSM-5 definition of addiction.

SCIENCE AS HUMAN ENDEAVOUR: EXPLORING THE INTERACTION BETWEEN SCIENCE AND SOCIETY

Communication and Collaboration: Collaboration between psychologists and stakeholders progresses research, understanding and enterprise. It requires shared evidence from many sources in a multidisciplinary approach.

Identify a range of stakeholder organisations across the world who are currently researching gaming addiction and social media addiction. Using the research outlined above, or some additional research, provide a summary of the types of research currently being conducted by psychologists and stakeholders on this topic.

Behaviour modification

Behaviour modification is a psychological intervention used by psychologists to modify a specific problem behaviour that is impacting a person's ability to function normally. Teachers and parents also use behaviour modification techniques, although they might not realise that the strategies they use to change a child's behaviour have a formal title, they just use the principles of behaviour modification to encourage their child to eat properly, or go to bed on time, or spend less time on video games. If your teachers have ever encouraged you to set a SMART goal (Specific, Measurable, Achievable, Realistic, Timely) about increasing the number of times you ask for help in class in Maths or increasing the number of hours you are spending on homework, then they have used the concepts behind behaviour modification.

Behavioural psychologists believe that behaviours are learned. As a result of this belief, if behaviours can be learned it is logical that behaviour can be "unlearned' and new behaviours can be learned to replace existing behaviours.

Figure 2.2.4: In his Ted Talk founding father of virtual reality, Jaron Lanier, refers to social media platforms as "behaviour Modification Empires".

Social media platforms such as Facebook, Twitter, tik tok, Instagram and whatever the next iteration of social media platforms may include have the potential of altering human behaviours. In a Ted talk, 'The founding father of virtual reality', Jaron Lanier commented, "So, on social networks, social punishment and social reward function as the punishment and reward. And we all know the feeling of these things. You get this little thrill — *"Somebody liked my stuff and it's being repeated." Or the punishment: "… they don't like me, maybe somebody else is more popular, …."*

HELPFUL ONLINE RESOURCES

Watch Jaron Lanier's Ted Talk about social media platforms as behaviour modification empires: https://tinyurl.com/3xvumf8m

Read some quotes from Lanier's book "Ten arguments for deleting your social media accounts right now": https://tinyurl.com/3bm8hr97

Jaron Lanier is using the term behaviour modification to refer to social media platforms as having the ability to change people's behaviours based on whether they are reinforced or punished for the behaviours online. Whilst this is an accurate use of this term – psychologists refer to behaviour modification as a formal step by step process for systematically and deliberately **shaping**, or changing a person's behaviour, where there is a desire to make a change.

Behaviour modification has been explained in detail in Topic 5 on page 387. Have a read of the theory behind behaviour modification and complete the activities on pages 389-390 that ask you to apply your knowledge of behaviour modification to some scenarios. Once you have completed this background learning, return to this topic and consider the scenarios below.

CHECKING FOR UNDERSTANDING

Figures 2.2.5: Social media and phone use has become a social issue for many people.

Select one picture of people using mobile phones.
Create and describe a scenario which involves one of the people in the pictures deciding that they need to improve their social media use.

Describe **how** behaviour modification could be used to improve their social media in this situation in the future.
(Note: Behaviour modification is also covered in the Psychology of Learning topic which means this is an examinable concept. Describing how behaviour modification can be requires you to describe what behaviour modification aims to do, and how (the steps) the person will follow through the behaviour modification process to improve their social media use)

ETHICS OF USING BEHAVIOUR MODIFICATION FOR IMPROVING SOCIAL MEDIA USE

The ethical issues associated with controlling other people is perhaps the overarching ethical concern of behaviour modification. When you perform behaviour modification, you are encouraging or even forcing people to behave in a way that might not be normal for them. All forms of psychological intervention need to be managed with a "no harm" philosophy. Consider the teenager forced to go without their phone because a parent wants them to reduce their screen time. Is this ethical? In some instances, you might not see any ethical issues with behavioural modification. For example, taking your 8-year-old child's phone away at bedtime might not seem to pose any issues. Forcing someone with poor self-esteem or anxiety, however, to forgo their phone use after 6pm each night might cause unnecessary stress or anxiety, even if it benefits the family dinner time in the short term.

SCIENCE INQUIRY SKILLS – ETHICAL ISSUES

Ethical practice is an integral part of psychology and is explicitly covered in the Science Inquiry Skills Chapter (SIS 8). Review the Code of Ethics on page 492-495.

Discuss the ethics of using behaviour modification for improving social media use in teenagers.

Note: In your discussion you may include any of the ethical concepts mentioned in the Science Inquiry Skills chapter, you are not limited to the traditional ethical issues associated with research.

SCIENCE AS HUMAN ENDEAVOUR: EXPLORING THE INTERACTION BETWEEN SCIENCE AND SOCIETY

Elaheebocus, S., Weal, M., Morrison, L., & Yardley, L. (2018). Peer-Based Social Media Features in Behaviour Change Interventions: Systematic Review. *Journal of medical Internet research*, 20(2), e20.
https://tinyurl.com/3kv6mz4t

In contrast to the notion of using behaviour modification to improve a teenager's use of social media, this metanalysis of a number of research studies looks at how social media has been used to support behaviour changes such as weight loss, increasing physical exercise, reducing smoking and other common behaviours that people are often wanting to help to change. Two small sections of this research are included below.

Results: Physical activity and smoking cessation interventions had the highest prevalence of social media features. Most of the behavioural interventions that included social media features reported positive (>70%) outcomes with respect to their hypothesis. Interventions that included social media features had the highest positive outcome percentages (>88.9%).

Conclusion: Social media features were reported to increase usage; enhance perceived levels of social support, motivation, and feeling of satisfaction; and also having a direct effect in behavioural outcome.

Development and Application: *The application of psychological understanding can enable scientists to develop solutions, progress discoveries…*

Describe how the use of social media applications might help psychologists develop solutions to supporting patients with behavioural changes.

Influence and Impact: *The use of psychological knowledge may impact through beneficial or unexpected consequences requiring monitoring, assessment, and evaluation of risk, through ethical considerations.*

Considering the currency of the research into behaviour modification programs, and integrating the use of social media platforms, discuss how scientists and psychologists might be guided by the beneficial consequences of using social media applications in behavioural interventions.

2.3 IMPORTANCE OF SLEEP FOR MENTAL HEALTH

Sleep is important for mental health

- Discuss the following theories of sleep needs:
  - repair and restoration theory
  - evolutionary theory
  - information consolidation theory
  - clean-up theory.
- Discuss some of the personal and societal factors that can contribute to sleep deprivation.
- Describe some personal and organisational strategies that could be used to increase sleep duration and improve sleep quality

2022 Subject Outline | Stage 2

Have you ever had trouble falling asleep? Have you ever felt grumpy, cranky, or not your best if you haven't had enough sleep?

Sleep is important for mental health

Discuss whether you think there is a link between sleep and mental health? Is there a strong link? A weak link? No link?

As it turns out, getting enough sleep to ensure positive mental health is very important. It could be said that there is a reciprocal, or bidirectional relationship between sleep and mental health. When you are sleep deprived, this affects your psychological state and mental health. Likewise, people with an existing mental health disorder are more likely to have insomnia or other sleep disorders.

If you have something worrying on your mind, an upcoming exam, friendship issues, starting a new job, complex family relations, it is likely that you will have more trouble falling asleep and staying asleep. This is quite normal and happens to all people at some point in time. However, if you have an underlying mental health disorder such as anxiety or depression that causes frequent worry or stress, this can trigger consistent and ongoing problems with sleep or insomnia (trouble falling asleep, waking frequently during the night, or waking too early). The reverse is also true. Some people start off with insomnia which develops into depression, while others start off with depression that leads to insomnia. A common symptom of depression is the inability to sleep – known as insomnia.

As many as 40-50% of people with insomnia also have a mental health disorder according to the American Psychological Association's Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5). A meta-analysis that collectively included 172,077 individuals found that those with insomnia had a twofold increased risk of developing depression compared with individuals without insomnia, as reported in 2016 in the journal *BMC Psychiatry*.

Figure 2.3.1: The relationship between sleep and mental health can be described as bidirectional, meaning one can worsen the other and vice versa.

HELPFUL ONLINE RESOURCES

You can read more about this meta-analysis here:
https://tinyurl.com/yaajhk4h

Theories of sleep needs

As you settle into the routines of year 12, and start to become aware of the stresses associated with your studies, competing priorities with work, relationships, friendships and life beyond school – you may find yourself staying up late at night. You might be up studying hard having completed a shift at work after school and needing to catch up on your studies, you may be the student who doesn't stress too much about school but gets yourself distracted for hours by your social media accounts, or you may stay awake at night after going to bed on time, but still unable to sleep. If you aren't getting the recommended 8 - 10 hours sleep per night and think you can survive on 7 or less hours sleep as a healthy teenager, then consider the research that suggests that sleeping is essential.

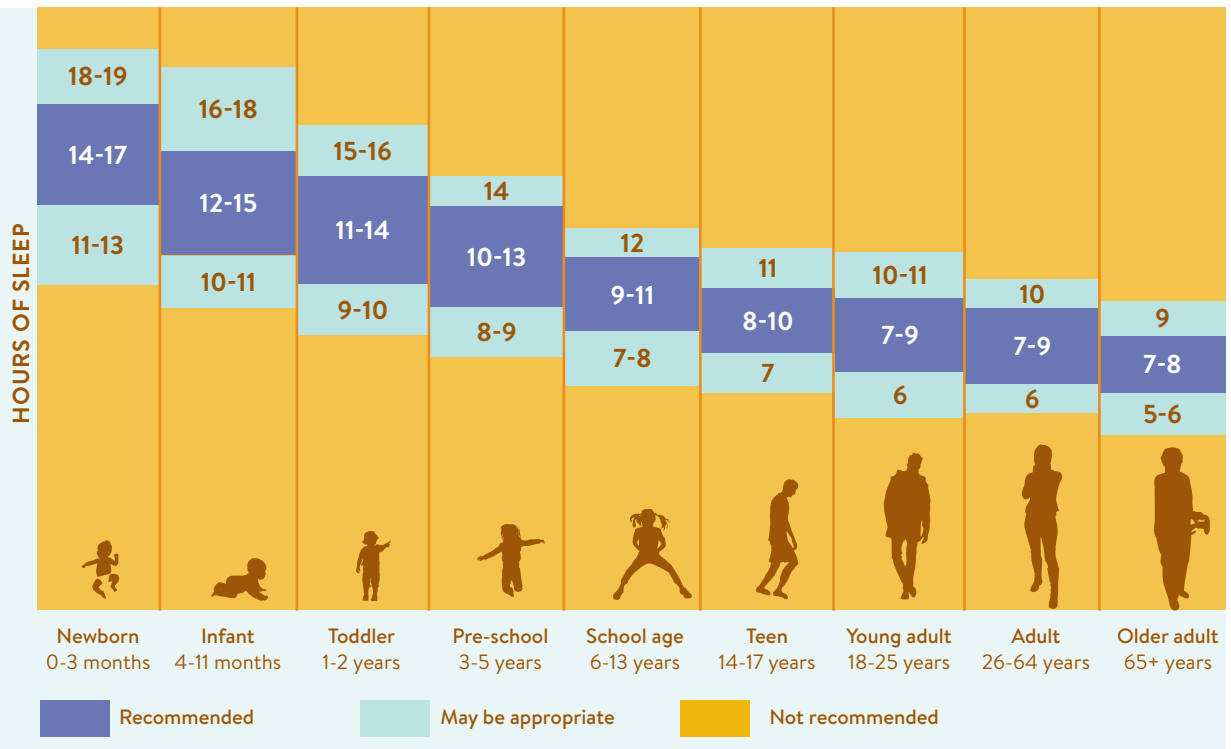

Figure 2.3.2: Sleep duration recommendations from the National Sleep Foundation

REPAIR AND RESTORATION THEORY

Have you ever wondered why you sleep more when you are sick? People who experience partial sleep deprivation over a period of time are more likely to suffer from a range of illnesses.

Research conducted by Exenwanne, 2011, shows that greater periods of REM sleep increase after we have been sleep deprived, or doing strenuous activities during the day. It is known that the body increases cell division and protein synthesis which suggests that repair and restoration occur during sleep.

New research in mouse models suggests that specialized immune cells keep the brain in good working order by maintaining it during sleep. As reported in Medical News Today, a team of researchers from the University of Rochester Medical Center in New York and the Massachusetts Institute of Technology in Cambridge has discovered more about how brain maintenance also occurs during sleep.

In their study the investigators worked with mice to find out more about how microglia, which are the immune cells that "service" the brain and perform their maintenance work during sleep. This research shows that the signals in our brain that modulate the sleep and awake state also act as a switch that turns the immune system off and on.

So, reason number one to get enough sleep – sleep will repair and restore your basic body functions and strengthen your immune system.

CLEAN-UP THEORY

Related to the repair and restoration theory, in 2013 further research uncovered new findings to suggest that the brain uses periods of sleep to flush out waste toxins from the body. The researchers focused in particular on how fluids flow within the glymphatic system or the spaces between neurons. This is something like a waste disposal system, clearing out the waste products that brain cells generate when performing normal tasks. The brain only has two functional states. Awake and alert, or asleep and cleaning up. They suggest that that problems with cleaning out this brain waste might play a role in a number of brain disorders such as Dementia, Parkinson's and Alzheimer's diseases.

HELPFUL ONLINE RESOURCES

You can read more about this research in Medical News Today:
https://tinyurl.com/5dpcfsvr

EVOLUTIONARY THEORY

We know that regular sleep is essential for survival. Another hypothesis about why humans and animals sleep is based on observation of different species of animals. The theory hypothesis that one reason for sleep is to conserve energy with periods of inactivity. According to this, all species (humans included) have adapted over time to sleep during periods of time when being awake would be hazardous. As humans, consider the implications and potential harm we might bring to ourselves during periods of darkness when other predator species have advantages over night vision and stealth.

During prehistoric times, it was much harder for humans to get food than it is today. By sleeping for part of the day, humans could conserve some of the energy they gained from this scarce resource. Humans have evolved to be awake during the daylight hours and sleep during the night time. We are most productive during the day, and able to rest at night. Support for this theory can be seen in the sleep / wake cycle of animals. Predatory animals such as lions and bears can afford to sleep for 12 to 15 hours a day, whereas other animals with many predators often have only short periods of sleep of 4 to 5 hours at a time.

Figure 2.3.3: Koalas sleep for approximately 20 hours a day or more. Sleeping for long periods of time allows them to slow their metabolism and maintain energy levels.

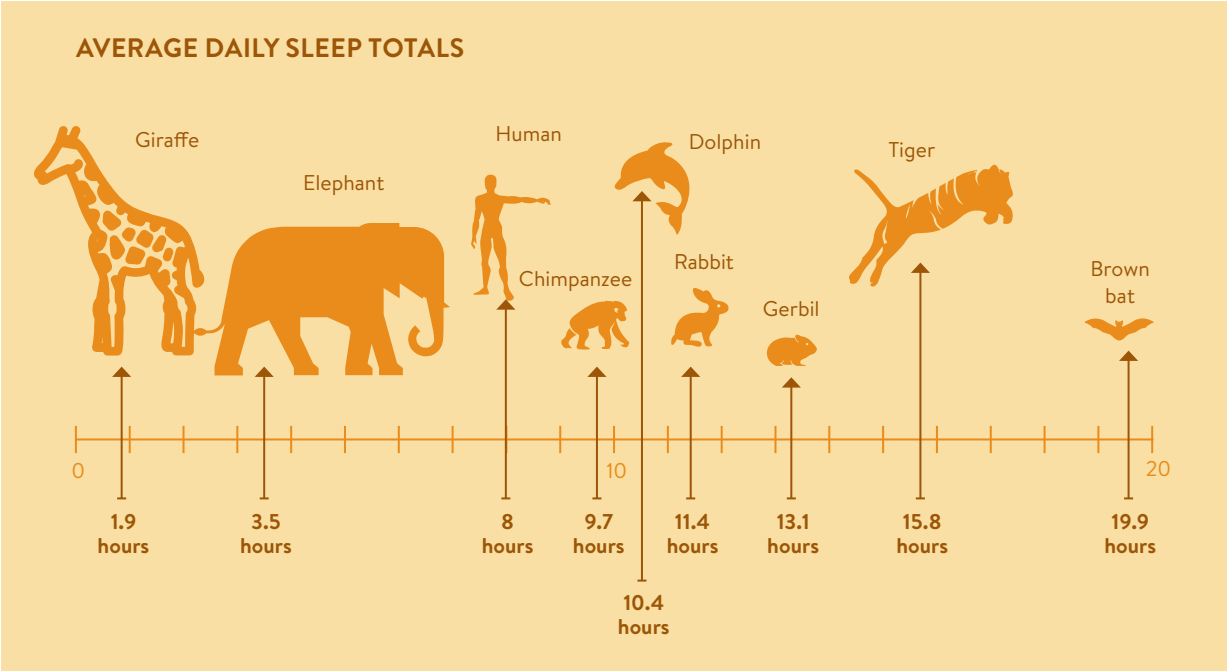

Figure 2.3.4: Large animals such as elephants need to consume a lot of calories to obtain the energy they need to live, whereas small animals like bats and possums need few waking hours to survive.

INFORMATION CONSOLIDATION THEORY

Have you wondered why you feel mentally sharper after a good night's sleep, as compared to a restless night's sleep or a big night out?

In the information consolidation theory, it is hypothesised that REM sleep plays a vital role in memory retention and consolidation, removal of trivial or unwanted information, and storage of important data from memory. The information processing model of memory requires memories to be consolidated from Sensory to Short Term to Long Term memory. This consolidation tends to take place during slow-wave sleep (deep sleep).

Research into sleep deprivation has shown that a lack of sleep has a serious impact on the ability to recall and remember information.

Another key reason related to being the best you can be as a school student is that if you would like to retain what you are learning at school during the day – a good night's sleep is going to help.

HELPFUL ONLINE RESOURCES

You can read more about System consolidation of memory during sleep research online
https://tinyurl.com/2xcbfw85

CHECKING FOR UNDERSTANDING

While there is research and evidence to support each of these theories of sleep, there is still no clear-cut support for any one theory.

Using research links in this section and/or your own online research, present an argument that suggests that each of these theories can be used to explain why we sleep.

SCIENCE INQUIRY SKILLS – DO YOU GET ENOUGH SLEEP?

Aim: This activity will give you practice at data collection methods and allow you to analyse and interpret data to arrive at a conclusion.
Instructions: Complete the sleep diary below each morning for seven days. At the end of the 7 days complete the analysis questions
Before you begin: Several variables have been introduced into this study. Discuss each of the variables as a class, then decide the variable that you are going to observe for the purposes of this study. For example, you may choose to explore a connection between the activities you did before bed, and the time it took you to fall asleep. You may decide to look at the stress levels from the previous day and compare this to the number of hours of sleep you had each night.
Activities: Write a hypothesis that predicts the outcome of this research

Identify the Independent Variable:

Identify the Dependent Variable:

Identify any potential extraneous variables

Explain the research design you are using for this research

Explain the type of data you are collecting in this research

Explain any ethical issues that should be taken into consideration when completing this research

	Time you went to be the previous night	Time you woke up	Estimate how long it took you to fall asleep (minutes)	Calculate number of hours slept (hours and minutes)	Record any time you woke up during the night	Rate your stress levels from the previous day (1 – 10)	List the activities you did in the 30 minutes before bed (eg exercise, screen time, study, tv)
Monday							
Tuesday							
Wednesday							
Thursday							
Friday							
Saturday							
Sunday							

DESCRIPTIVE STATISTICS

Calculate the total amount of sleep you accumulated throughout the week.

Calculate other relevant data based on your chosen hypothesis.

Display your results visually

Was your hypothesis supported or rejected? Explain your answer

The recommended sleep requirements for teenagers is between 8 – 10 hours per night. Did you get your recommended 56 – 70 hours of sleep during the week?

Write a conclusion based on the finding of your research.

Why is a sleep diary an example of a subjective measure of hours of sleep? Identify the advantages and disadvantages of using this type of data.

Critically evaluate the procedures and data.
Identify sources of uncertainty, such as confounding and extraneous variables

Evaluate the reliability and validity of the data.

Describe limitations in the procedures for this research

Describe why the results from this study may not lead to a definitive conclusion.

Personal and societal factors can contribute to sleep deprivation

WHAT IS SLEEP DEPRIVATION?

In today's society the average individual is getting just over 6 hours sleep. Whilst we do not yet fully know the detriments of this dramatic change in our sleep pattern, studies have shown higher rates of cancer, infection, obesity, cardiovascular disease and metabolic derangements due to this in adults. We also know that sleep deprivation causes compromised brain function, memory, job performance and more mistakes and injuries at work. Depression can in some people be related to a brain neurotransmitter imbalance caused by too little sleep. Figure 2.3.2 on page 114 shows the optimum hours of sleep for teenagers is between 8 – 10 hours per night. Over time, if you don't get this amount of sleep, you build up sleep debt which is the difference between the amount of sleep you need, and the amount of sleep you actually got. This makes sense and explains why quite often we will sleep in on the weekend to make up the extra sleep debt that we didn't achieve during the school or working week.

Sleep deprivation increases as our sleep debt increases and has been shown to have a negative effect on our physical and mental health. There are two types of sleep deprivation.

Partial sleep deprivation occurs when you don't get enough sleep most days of the week. Common symptoms include daytime sleepiness, increased desire to nap, irritability and difficulty getting along with other people, poorer reaction times,

difficulty remembering things, lapses in attention and microsleeps. If these are the symptoms of not getting enough sleep per night – should you be trusted to drive a car or operate machinery at work? Will you perform your best on your schoolwork? Will you be able to maintain a positive relationship with your family and friends?

HOW SLEEP DEPRIVATION AFFECTS YOUR BRAIN

Higher levels of anxiety
Lack of sleep amplifies the brain's anticipatory reactions. Raising overall anxiety levels.

Higher levels of depression
Lack of sleep causes a decrease in neurotransmitters which regulate mood.

Impaired cognition
Excessive sleepiness impairs memory and the ability to think and process information.

Headaches and migraines
Research links poor sleep quality to migraines and headaches.

Figure 2.3.5: Impacts of sleep deprivation on the brain.

This is an opportunity to connect your understanding of sleep deprivation with Maslow's Hierarchy of Needs in Topic 1. Maslow says that sleep is a basic human need, and we can't be our personal best when our needs are not being met. Refer to page 18-19 to recap for more details on Maslow's Hierarchy of Needs.

Continuous sleep deprivation occurs when you have no sleep at all for a period of time and is rare outside laboratory experimental conditions. It is however used in training exercises in the army for example. Research into continuous sleep deprivation has shown that on the second night of sleep deprivation, people fall asleep but deny it. On the third day they become tense, apathetic and irritable when disturbed, have mood swings, microsleeps and may experience delusions and hallucinations. By the fourth day people are showing paranoia.

HELPFUL ONLINE RESOURCES

A number of video resources have been provided to help you further understand the effects of sleep deprivation:
https://tinyurl.com/9ruzm3pv

Expert Sleep Medicine:
https://tinyurl.com/ks5y892a

University of California:
https://tinyurl.com/azbxs9ww

10 Sleep deprivation experiments:
https://tinyurl.com/wtej7s8a

Personal factors that contribute to sleep deprivation
World Record holder Randy Gardner:
https://tinyurl.com/sbhh5648

In 1959, to raise money for charity, American DJ Peter Tripp agreed to forgo sleep for 201 hours. After 100 hours he began to have hallucinations. He saw cobwebs in his shoes and he was terrified when his tweed coat became a suit of 'furry worms'. He believed his dressing table in his hotel room burst into flames. After 170 hours, Tripp was in agony. He struggled with simple thoughts and reasoning, had memory problems and he was no longer sure of who he was. By the end of 201 hours, Tripp was unable to distinguish between his waking nightmares, hallucinations and reality.

SCIENCE INQUIRY SKILLS – ETHICAL ISSUES

Considering the sleep deprivation research provided in the links above – explain the ethical concerns associated with research on the topic of sleep deprivation.

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If a researcher did want to conduct research on the topic of sleep deprivation, describe some safety recommendations you would put in place to minimise harm to participants.

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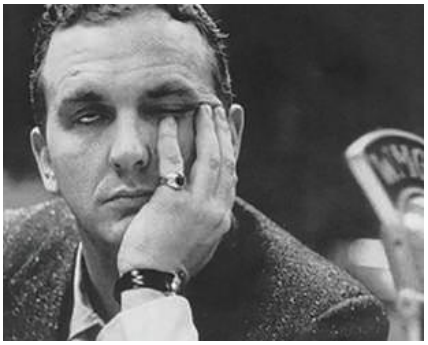

Figure 2.3.6: Peter Tripp deprived himself of sleep for 201 hours.

Figure 2.3.7: Record holder Randy Gardner deprived himself of sleep for 264 hours.

SOCIETAL FACTORS THAT CONTRIBUTE TO SLEEP DEPRIVATION

The findings from the *Growing Up in Australia* Longitudinal Study of Australian Children show that large numbers of Australian adolescents slept less than the recommended minimum for healthy growth, learning and development. It has been shown that around a quarter of 12–15-year-olds and half of 16–17-year-olds are not getting enough sleep on school nights to meet national sleep guidelines. The sleep-wake cycle is influenced by a large number of societal factors – by this we mean habits, routines, structures that society puts in place that we don't have much control over. Many of the factors below can be shown to negatively impact sleeping patterns.

Co-sleeping and parenting choices - Societal factors such as bed-sharing and room-sharing can influence sleep deprivation. Sleeping with a baby or young child (or a pet for that matter) in the same bed can significantly contribute to sleep deprivation. This is a two-way argument about whether it is more disruptive to parent's sleep patterns to get up and leave the room to settle an infant or child, or to have them co-sleep with the parents.

Media use – A quick google search of the link between media use, or social media use and the impact on sleep deprivation brings up a wide range of current research being conducted in this area. What is consistent amongst this research is that the more time adolescents spend on screen-based activities (like social media, web surfing, watching

TV, and gaming), the more trouble they have falling asleep and the less sleep they get during the night. These sleep issues are linked with increased symptoms of insomnia and depression.

Extracurricular activities – Adolescents have so many extracurricular opportunities that it can be difficult to balance them all. You may feel as though you are expected to keep up satisfactory grades, join clubs, play sports, volunteer, be social, and have a part-time job. For many students, this means sacrificing sleep. Unfortunately, without proper sleep, it can be hard to keep up with the fast pace and hearty schedules that so many adolescents have. If students do not get enough sleep at night, it can cause them to become agitated, worn-down, apathetic, and tired. Without their full focus and energy, students' grades may suffer, as may their drive to partake in fun extracurricular activities.

Homework time - Linked to the notion of extra-curricular activities, adolescents spending more than 5 hours on homework per week are more likely not to meet minimum sleep guidelines, than those doing 1 to 3 hours a week. Homework can interfere with sleep time, especially when adolescents have busy after school schedules. Compounding the time spent on homework, these days nearly all homework activities are completed on a computer, laptop or mobile device and exposure to blue light from screens in the evening is another contributing factor that impact how much sleep you might get each night.

School schedule – The large majority of school schedules begin early in the morning, requiring adults, children, infants to all wake and be up and out of the house at the same time. Consideration to the different sleep needs of these age groups isn't taken into consideration with school starting times, but society has developed a routine where students are at school from 8:30am and adults typically start work at 9:00am – hence setting the routine.

SCIENCE INQUIRY SKILLS – INTERPRETING DATA

Consider the two graphs below from the Australian Institute of Family Studies:
https://tinyurl.com/64uej6r2

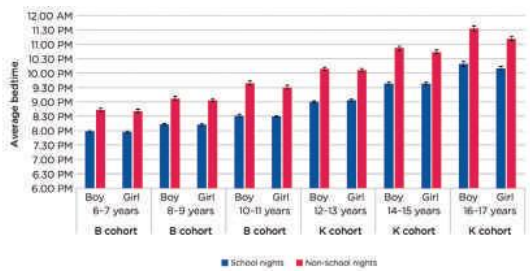

Figure 2.3.8: Average bedtime on school nights and nonschool nights, by age and sex.

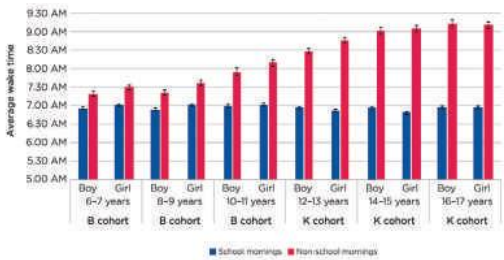

Figure 2.3.9: Average wake times on school days and nonschool days, by age and sex.

Use evidence and scientific understanding from the two graphs provided to make and justify a conclusion about average bedtime and wake times on school / non-school days for children in Australia.

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Shift work - Shift work is loosely defined as any shift that falls outside the hours of 6 am and 7 pm, including fixed and rotating hours. Roughly 16% of employees follow shift work schedules, typically in professions such as nursing, medicine, factory work, police, wineries during vintage season, hospitality – essentially jobs that require people keeping the work going 24 hours a day. Of these workers, current estimates suggest one in five workers experience a form of shift work sleep disorder. This is a condition that primarily affects people who work at night, in the early morning, or have rotating shifts. The disorder may cause insomnia when workers attempt to sleep during the day, and/or tiredness while they are at work. Significant sleep loss usually occurs. The average person with shift work disorder loses one to four hours of sleep per night.

Jetlag - Jet lag is a **circadian rhythm** sleep-wake disorder that occurs when your 24-hour internal clock, known as your circadian rhythm, does not match the local day-night cycle. Normally your circadian rhythm aligns with daylight, encouraging you to be awake during the day and to sleep at night. This internal clock synchronizes with the 24-hour day to promote quality sleep as well as physical and mental health. Jet leg generally happens when a person travels east or west across three or more time zones. For example, if you fly from Sydney to Perth and arrive at 5 p.m. (Perth time) your body might still operate as if it's in Sydney where it is now 8pm. You will be ready for a late dinner, then off to bed – but it is still early evening in Perth – a long time until bedtime. This jet lag can cause you to stay up later than you'd like, sleep at odd hours, or feel more tired than usual, among other symptoms.

Figure 2.3.9: Shows a lady wearing an eye mask which can be a strategy to limit the impact of jetlag.

PERSONAL FACTORS THAT CONTRIBUTE TO SLEEP DEPRIVATION

Personal choices - Sleep deprivation is often driven by voluntary choices that reduce available sleep time. For example, a person who decides to stay up late to binge-watch a TV series may experience acute sleep deprivation. An inconsistent sleep schedule may facilitate these decisions and make them feel less intentional in the moment.

Sleep disorders - Sleep deficiency may be caused by other sleep disorders or medical conditions. For example, narcolepsy. Sleep apnoea is another sleep disorder which is essentially a breathing disorder that makes people wake up dozens and sometimes hundreds of times per night. This constant waking up hinders both sleep duration and quality.

Medical or health problems - Other medical or mental health problems, such as pain, general anxiety disorder or depression can interfere with the quality and quantity of sleep. Common health problems that can contribute to sleep deprivation include chronic fatigue syndrome, chronic pain, substance misuse, depression, anxiety, bipolar disorder, schizophrenia and obesity.

Delayed Sleep Phase Syndrome – Common in adolescence, delayed sleep phase syndrome (DSPS) is a disorder in which a person's sleep is delayed by two hours or more beyond what is considered an acceptable or conventional bedtime. The delayed sleep then causes difficulty in being able to wake up at the desired time.

For example, a person with DSPS won't fall asleep until after midnight instead of at 10 p.m. and then will have difficulty getting up in the morning for school or work. DSPS is common among adolescents and young adults with approximately 7 to 16% of young people reporting difficulty getting to sleep for no apparent reason.

Figure 2.3.10: A DSPS circadian rhythm shifts a person's sleep/wake cycle making them want to sleep later and wake later.

Stress - It is normal to feel stressed occasionally, but chronic feelings of stress can cause the nervous system to maintain a heightened state of arousal for extended periods. Being in this state can severely impact physical and mental health in the long term. One effect of stress is that it can cause sleep deprivation. Frequently being in a heightened state of alertness can delay the onset of sleep and cause rapid, anxious thoughts to occur at night. Insufficient sleep can then cause further stress. According to a National Sleep Foundation survey, 43 percent of people aged 13–64 have reported lying awake at night due to stress at least once in the past month.

HELPFUL ONLINE RESOURCES

Research in the media
https://tinyurl.com/4vkkbwvp

The Australian guideline for the amount of screen time for children aged 2 – 18 years is not more than 2 hours a day. The Australian Health Survey on Physical Activity in 2011 – 2012 revealed that children and teenagers on average are spending more than 2 hours a day on screen time, with physical activity decreasing as age increased.

Read the following article and answer the questions on page 126.

A new research report from health promotion foundation VicHealth and the Sleep Health Foundation has found Australian teenagers are missing out on crucial sleep, with screen time, caffeine and stress keeping them awake.

The research found that the average teenager only got between 6.5 and 7.5 hours of sleep a night, well under the recommended 8-10 hours, and it was seriously impacting their mental wellbeing, with increased rates of depression, anxiety and low self-esteem among sleep-deprived teens. But the study also found a simple way for teens to reclaim some much-needed shut-eye. Teens who put down their smart phones an hour before bed gained an extra 21 minutes sleep a night and an hour and 45 minutes over the school week.

The Sleep and Mental Wellbeing study also found:

- Two-thirds of teenagers (66%) reported at least one symptom of a sleep disorder, such as insomnia
- Sleep problems during childhood and adolescence are predictive of depression later in life
- Up to 66% of young Australians experience symptoms of insomnia.
- Teenagers slept up to 90 minutes more on weekends due to being able to wake up later.

VicHealth CEO Jerril Rechter said not getting enough sleep was a serious health issue for many Australian teenagers and young people.

"Not getting enough sleep can really mess with all of us but young people in particular are at risk of a range of mental health issues such as depression, anxiety, low self-esteem and mood issues," Ms Rechter said.

"Our report also found that sleep problems during childhood and as a teenager can lead to depression later in life. Sadly poor sleep is also associated with suicidal thoughts in teenagers so it's really critical we support young people to get the sleep they need.

"We know that the increasing time teens spend on screen-based devices is making it really tough for many to get to sleep. There's no denying that devices are a part of our life, but our research found a simple step like putting away your phone an hour before bed can lead to more sleep and a better-quality sleep."

CHECKING FOR UNDERSTANDING

How many hours per day do you spend in front of a screen? Is this above or below the recommended time per day?

Describe the aim of this research

Summarise the conclusion the researchers arrived at based on the findings from this study.

Have a think about the long-term implications of sleep deprivation on teenagers as they move into adulthood. What do you think some of the issues might be if an entire generation of young people are consistently sleep deprived?

Do you think there should be stricter government guidelines on the use of social media, internet use, screen time, recommended hours of sleep? What might this look like in real terms if the government was to legislate in this area? Outline the pros, cons, ethical and moral issues of providing stricter guidelines for children and teenagers.

PERSONAL AND ORGANISATIONAL STRATEGIES TO INCREASE SLEEP DURATION AND IMPROVE SLEEP QUALITY

Through this section we have learned that sleep is as important to keeping you healthy as exercising regularly, eating a well-rounded diet and maintaining a healthy weight. You may be able to function on an occasional rough night, but a lack of rest on a regular basis can take a toll on your health.

A chronic lack of sleep may increase your risk of heart disease, diabetes, obesity and other health issues. It may also lower productivity, make you more prone to accidents and put you in a bad mood. Making sure you sleep better is an important part of staying healthy.

So, what can you do to increase the amount of sleep quantity (total hours of sleep each night) and sleep quality (how well you sleep)?

The good news is that there is a lot of consistent research and some very simple sleep hygiene tips that will support you to improve your sleep.

PERSONAL AND ORGANISATIONAL STRATEGIES

Your daily routines – what you eat and drink, the medications you take, how you schedule your days and how you choose to spend your evenings – can significantly impact your quality of sleep. Even a few slight adjustments can, in some cases, mean the difference between sound sleep and a restless night.

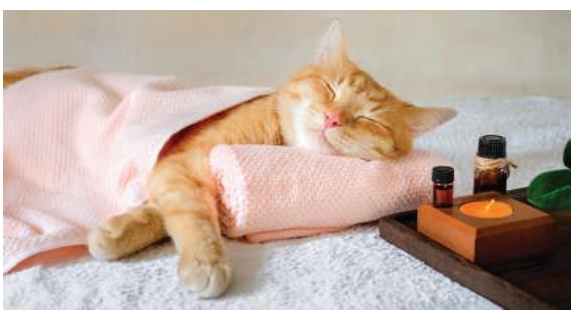


Figure 2.3.11: What are the key criteria for getting a good night's sleep?

The term "sleep hygiene" refers to a series of healthy sleep habits that can improve your ability to fall asleep and stay asleep. These habits can help improve your sleep health.

When people struggle with insomnia, sleep hygiene is an important part of cognitive behavioural therapy (CBT), the most effective long-term treatment for people with chronic insomnia. CBT for insomnia can help you address the thoughts and behaviours that prevent you from sleeping well. It also includes techniques for stress reduction, relaxation and sleep schedule management. CBT will be discussed further in Topic 2.5.

Self-check – tick how many of these strategies you do successfully and consistently**.** Highlight those you might improve upon.

- ☐ Keep a consistent sleep schedule. Get up at the same time every day, even on weekends or during vacations.
- ☐ Set a bedtime that is early enough for you to get at least 8-10 hours of sleep.
- ☐ Don't go to bed unless you are sleepy.
- ☐ If you don't fall asleep after 20 minutes, get out of bed. Go do a quiet activity without a lot of light exposure. It is especially important to not get on electronics.
- ☐ Establish a relaxing bedtime routine.
- ☐ Use your bed only for sleep and sex. Using your bed for other activities such as homework will create a classically conditioned association with bed as a place to do homework, not a place to sleep.
- ☐ Avoid sleeping in places other than your bed, for example avoid falling asleep in the lounge chair. This will similarly create an association between sleep and the lounge chair making sleeping in bed much harder to achieve.
- ☐ Make your bedroom quiet and relaxing. Keep the room at a comfortable, cool temperature.
- ☐ Limit exposure to bright light in the evenings.
- ☐ Turn off electronic devices at least 30 minutes before bedtime.
- ☐ Don't eat a large meal before bedtime. If you are hungry at night, eat a light, healthy snack.
- ☐ Exercise regularly and maintain a healthy diet.
- ☐ Avoid consuming caffeine in the afternoon or evening.
- ☐ Avoid consuming alcohol before bedtime.
- ☐ Reduce your fluid intake before bedtime.

Biopsychosocial Model

Many people experience poor quality sleep on and off, and sometimes this seems to last for days, even weeks. Some people develop sleep disorders, and no matter how hard they work at following positive sleep hygiene practices, they continue to have trouble falling asleep, staying asleep or waking early.

Sleep disorders are a medical condition that may be caused by physiological, psychological, or environmental factors or a combination of these.

The biopsychosocial model for explaining psychological phenomenon can be used to unpack and understand how a sleep disorder develops.

CHECKING FOR UNDERSTANDING

Using the biopsychosocial diagram below to identify the biological, psychological, and social factors that might lead to sleep deprivation or cause a sleep disorder.

Summarise your thinking by explaining how the biological, psychological, and social factors that might lead to sleep deprivation or cause a sleep disorder.

SCIENCE AS HUMAN ENDEAVOUR

Abstract adapted from: The future of sleep health: a data-driven revolution in sleep science and medicine Perez-Pozuelo, I., Zhai, B., Palotti, J. *et al*. The future of sleep health: a data-driven revolution in sleep science and medicine. *npj Digit. Med. 3*, **42 (2020). https://tinyurl.com/z2cwdse8**

In recent years, there has been a significant expansion in the development and use of multi-modal sensors and technologies to monitor physical activity, sleep, and circadian rhythms. These developments make accurate sleep monitoring at scale a possibility for the first time. Vast amounts of multi-sensor data are being generated with potential applications ranging from large-scale epidemiological research linking sleep patterns to disease, to wellness applications, including the sleep coaching of individuals with chronic conditions. However, in order to realise the full potential of these technologies for individuals, medicine and research, several significant challenges must be overcome. Here, we leverage expertise across neuroscience, clinical medicine, bioengineering, electrical engineering, epidemiology, computer science, Health and human–computer interaction to discuss the digitisation of sleep from a inter-disciplinary perspective.

Read the article: **The future of sleep health: a data-driven revolution in sleep science and medicine** and outline how the development of new technologies in the area of sleep research along with the collaboration of scientists across multiple disciplines illustrates the SHE concepts outlined below.

Communication and Collaboration

- Collaboration between psychologists and stakeholders progresses research, understanding and enterprise. It requires shared evidence from many sources in a multidisciplinary approach.

Development and Application

- Developments in research, enterprise and technology lead to advancements in psychological understanding.
- The application of psychological understanding can enable scientists to develop solutions, progress discoveries, design action, evaluate and respond to economic, social, cultural, and environmental and sustainable factors.

SCHOOL ASSESSED TASKS IDEAS:

Literature Review

- Choose one of the societal or personal factors, or any other factor that contributes to sleep deprivation and conduct a literature review.
- Your aim should be to research at least 5 articles on the same topic.
- Provide a summary of the findings with references to the research, data and conclusions about how your chosen factor contributes to sleep deprivation.
- In your conclusion, provide some recommendations outlining the best personal and organisational strategies that could be used to increase sleep duration and improve sleep quality

Investigate social issues associated with sleep deprivation

1. Investigate how one or more of the following are affected by sleep deprivation: personal relationships, the road toll, workplace accidents. Prepare a presentation to a selected audience that incorporates:
2. An explanation of the biopsychosocial factors that contribute to sleep deprivation.
3. Research, data and findings about your chosen topic.
4. Recommendations outlining the best personal and organisational strategies that could be used to increase sleep duration and improve sleep quality.

2.4 INFLUENCE OF STRESS ON MENTAL AND PHYSICAL HEALTH

Stressors have a major influence on both mental and physical health.

- Discuss what is meant by the term 'stress'.
- Discuss whether the 'fight or flight response' has a positive or negative effect on health.
- Use Selye's General Adaptation Syndrome model to explain the long-term effects of stress on health.
- Explain how problem-focused and emotion-focused coping strategies attempt to address stress.

2022 Subject Outline | Stage 2

What is stress?

Consider the three pictures here. Which ones would you automatically associate with stress? Studying? Winning at the Olympics, or getting a nasty comment on one of your posts online?

Most people associate stress with negative situations, but some stress can actually be adaptive and helpful for us.

Stress is a normal physiological and psychological response people develop in response to the things that happen in our everyday lives. Stress is a normal response to **stressors**, or internal and external circumstances that are difficult, upsetting, or scary.

WHAT IS EUSTRESS?

Eustress is a relatively new concept that describes a type of stress that is positive, helpful, and motivating. Unlike distress, **eustress** motivates people to work hard, improve their performance, and reach their goals, even in the face of challenges. For example, the swimmers pictured here at the 2021 Tokyo Olympics may feel anxious at the thought of trying to win a gold medal against the world's best athletes, but the thought of what it means to win, the pride of representing Australia and looking forward to the celebrations once they win motivates them to swim their best. When we feel in control of the situation and feel that we can manage the demands of the stressor we are more likely to experience eustress. Eustress situations are normally enjoyable and not harmful psychologically or physiologically.

Eustress demonstrates that stress is not always a negative experience.

WHAT IS DISTRESS?

Distress describes the negative kind of stress that most people associate with feeling "stressed out". Distress tends to cause people to feel overwhelmed, anxious, and to experience physical and psychological symptoms like headaches, tension, insomnia, inattentiveness or irritability. Frequent, intense or chronic stress is toxic to the body and brain and is linked to a number of physical and mental illnesses, as well as impairing a person's ability to function. We experience distress when we feel we have no control over a situation, and we feel unable to manage.

ACUTE STRESS AND CHRONIC STRESS

Stress can also be categorised as acute or chronic. Acute stress is the most common form of stress and is the body's immediate response to a stressor. **Acute stress** is typically caused by the daily demands and pressures encountered in everyday life. Acute stress can be intense, but it usually appears and disappears over a short space of time.

Figure 2.4.1: High School and University students find studying stressful at times.

Figure 2.4.2: Tokyo Olympics 2021: Bronte Campbell, Meg Harris, Emma McKeon and Cate Campbell set a new world record in the 4x100m women's freestyle relay. Many enjoyable activities produce eustress.

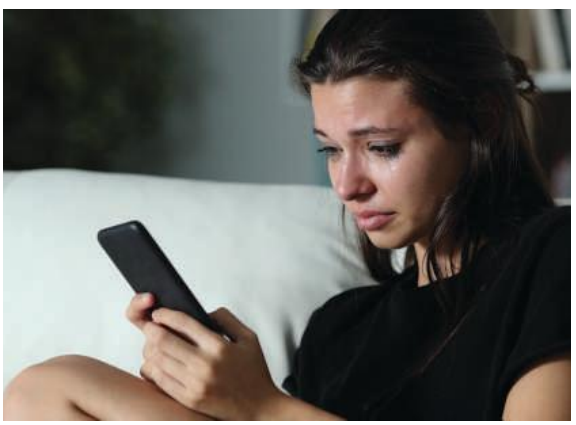


Figure 2.4.3: A negative psychological response to an unwanted comment on social media can create a sense of distress.

You might recognise the signs of acute stress when you started driving on the road. That sense that you weren't quite sure what you were doing, the feeling of a near miss.

Chronic stress is the body's response to a persistent or long-term stressor. It involves ongoing demands, pressures and worries that we feel we don't have control over. The symptoms are not as intense, but are experienced as a continual feeling of unease, despair or hopelessness. Because it lingers for a much longer period of time chronic stress depletes our body's natural resources, exhausts us and leaves us vulnerable to physical and mental health issues.

SOURCES OF STRESS

There are numerous situations and circumstances that can cause stress. Situations that cause stress could be interpreted positively and lead to eustress or they could be interpreted negatively and lead to distress. They can arise from *external environment* such as sitting your end of year exams, moving to a new house, or being involved in an accident. They can also come from *internal* factors such as an injury causing you pain, worry about your appearance, anxiety about what you are going to do when you leave school.

DAILY PRESSURES

Daily pressures, daily hassles are the little annoyances or relatively minor events that occur nearly every day. This might include things like missing the bus, arguing with your sister over who left the lid off the toothpaste, trying to meet a deadline at school. Daily lifts counteract the daily hassles and might include things like a smile from a friend, a hug, good food for dinner, finding your lost book.

Daily hassles can create headaches, mood swings, lower self-esteem, frustration and affect our ability to function in socially appropriate ways. We might be short tempered or rude to people due to the stresses we are experiencing.

Over time the accumulation of these stressors can exhaust our coping mechanism and lead to unhealthy coping strategies such as overeating, undereating, smoking, drinking and ultimately impact on mental health.

Daily pressures
Acute stress from everyday life can lead to stress

↓

Accumulated stress
Daily pressures can build up the effect of stress

↓

Amplification
When daily pressures accumulate, their effects can intensify and lead to chronic stress.

Figure 2.4.4: Every day we experience stress due to frustrating events we have no control over.

LIFE EVENTS

Life events are the opposite of daily hassles. They are significant but rare events that require a change in behaviour in a relatively short period of time.

Consider the major life event of finishing high school and heading off to University or full-time work. This requires leaving behind the routine, and structure you have known for the last 13 years and going to the unknown. For some students this life event coincides with a new job, moving out of home, losing some friendships, gaining new friendships and transitioning to adulthood with bills and responsibilities.

In the 1960s, psychiatrists Thomas Holmes and Richard Rahe wanted to examine the link between life stressors and physical illness, based on the hypothesis that life events requiring significant changes in a person's normal life routines are stressful, whether these events are desirable or undesirable. They developed the Social Readjustment Rating Scale (SRRS), consisting of 43 life events that require varying degrees of personal readjustment. Many life events that most people would consider pleasant (e.g., holidays, retirement, marriage) are among those listed on the SRRS; these are examples of eustress. Holmes and Rahe also proposed that life events can add up over time, and that experiencing a cluster of stressful events increases one's risk of developing physical illnesses.

Figure 2.4.5: Australian bushfires are an example of a natural catastrophe than can traumatise individuals and whole communities.

MAJOR CATASTROPHES THAT DISRUPT WHOLE COMMUNITIES

Natural disasters, such as bushfires, earthquakes, hurricanes, cyclones and floods are some of the traumatic disasters that create significant stressors for those affected as they disrupt everything we know about life, and often destroy our most basic needs that we take for granted – our homes, our safety and our ability to rest.

Following the initial stress of the catastrophic event, survivors can experience a range of ongoing secondary stressors that can add to their original stress and lead to mental disorders such as Post Traumatic Stress Syndrome, previously referred to in the DSM as a disorder.

For those who have lived through a natural or human-caused disaster, the anniversary of the event may renew feelings of fear, anxiety, and sadness. Certain sounds, such as sirens, can also trigger emotional distress. These and other environmental sensations can take people right back to the disaster or cause them to fear that it's about to happen again. These "trigger events" can happen at any time.

Another group of people who experience stress through these events are the first responders and recovery workers. They are not only physically and emotionally tested during an emergency, but they also may have loved ones in the area for whom they are concerned. They also are often the last to seek help for work-related stress.

Figure 2.4.6: Holidays should be an exciting and relaxing time but consider how many steps in organising a holiday create unnecessary stress.

CHECKING FOR UNDERSTANDING

Complete the table below to identify sources of stress either for you personally or collected from the class.

Money	Climate change	Violence	Social media
Work stress	Physical health or illness	Friendship issues	Sleep deprivation
Poor nutrition	Covid 19	New boss at work	Leaving home

Compare your list of stressors to the "Holmes and Rahe Stress Scale"
The Social Readjustment Rating Scale (SRRS), more commonly known as the Holmes and Rahe Stress Scale, was created to be able to rate and measure the total stress load that people carry and is used by doctors and psychologists to identify and support people through their stress when they are seeking help.
The Holmes & Rahe Stress Scale is a well-known tool for measuring the amount of stress you've experienced within the past year. Taking the test can help you see clearly if you're at risk of illness due to stress.
To score your stress levels, simply select Yes or No for each of the events in the Statements column that have happened to you in the last year. Then click Calculate My Total.
https://tinyurl.com/pej9rj74

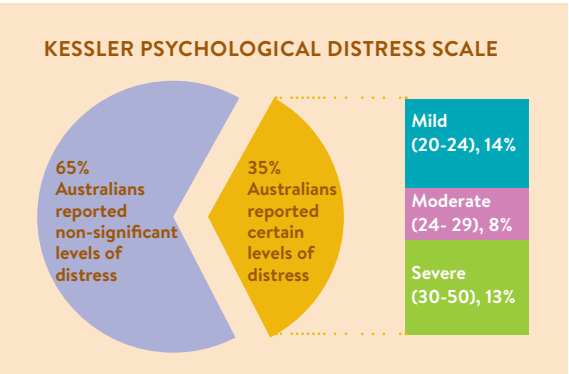
SCIENCE INQUIRY SKILLS – CORRELATIONAL RESEARCH

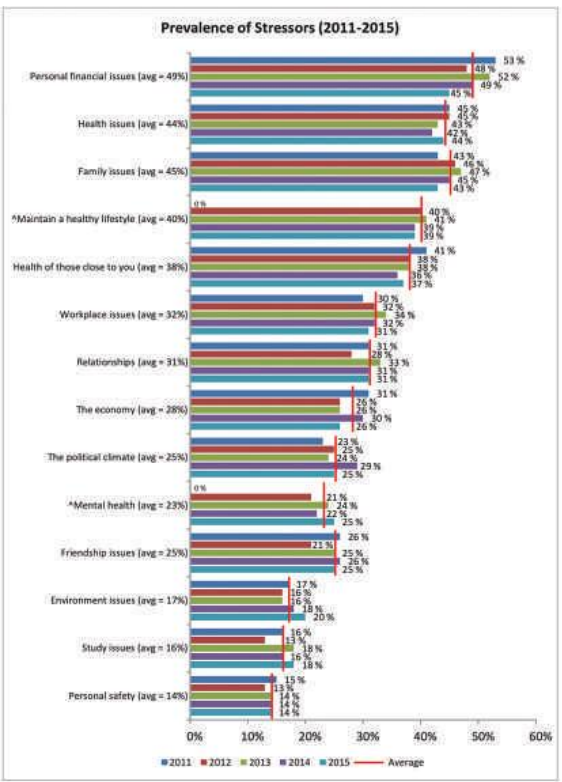
The Holmes and Rahe Social Readjustment Rating Scale (SRRS) uses the correlational research method to identify the connection between stress and health. That is, respondents' Life Changing Units (LCU) scores are correlated with the number or frequency of self-reported symptoms indicating health problems. These correlations are typically positive—as LCU scores increase, the number of symptoms increase.
Why can't the SRRS show a causal relationship between stress and illness?
If it were possible to show causation, do you think stress causes illness or illness causes stress?

Insert the following terms in the sentences below to describe what is meant by stress.

_____ is a _____ physiological and psychological response to a _____. _____ can include daily hassles, _____, _____ and be caused by _____ or _____ circumstances. When stress _____ over time, this can lead to acute or _____ stress. Stress can have positive effects as well as negative. Even though stress can _____ us into action and _____ our performance in certain tasks, (this is known as _____) most people focus on the negative and _____ effects of stress (this is known as _____). Over time, prolonged stress can _____ our ability to cope.

normal	Life events	internal	Stress	stressor	chronic	enhance	Stressors
harmful	catastrophes	eustress	external	motivate	continues	distress	exhaust





Over five years (2011-2015), 35% of Australians reported experiencing distress. Of those, 13% experienced severe levels of distress, 12% severe to extremely severe depression symptoms and 11% severe to extremely severe levels of anxiety symptoms. Discuss what you understand by the term "stress". In your discussion, refer to the:

- causes of stress as reported by 1500 Australians in the Australian Psychological Society Stress and wellbeing in Australia survey 2015.
- different levels of stress as reported in the Kessler Psychological Distress scale.

Read more about the Australian Psychological Society Stress and wellbeing in Australia survey 2015 https://tinyurl.com/3zm2yv8p

Fight or Flight response

Stress is experienced when your perceived environmental, social and physical demands are greater than your ability to cope, particularly when your wellbeing is at risk. We are always weighing up the events that are happening in our lives (assignments, friendships, work demands, our environment, things happening in the world around us) and deciding whether they are threatening our wellbeing. If we have the resources, mental and physical strength and strategies to manage these competing demands, we will successfully cope with each of these stressors. If we struggle with managing our wellbeing, our body and brain will activate a **stress response** (also known as the fight or flight response). Both eustress and distress involve the activation of the fight or flight response.

Figure 2.4.7: The pressures that early humans faced led to the evolution of the stress response.

The stress response has evolved since caveman times. Today, people face very different challenges to humans thousands of years ago. You may be forgiven for thinking that your life is very stressful, and that early humans lived a lot more peaceful life without the pressures of passing high school, getting a job, cyber bullying or social media. Life was hard for early humans; however, their stressors were typically physical and evolved around survival, hunting their next meal, and protecting themselves and family from predators.

Traditionally known as the "**fight-flight response**" because our body was prepared to confront (fight) the stressor if we believed we could fight it or escape to safety (flight).

The concept of a fight or flight response in the context of a perceived threat was introduced by Walter Bradford Cannon in the 1920s. It was theorised that people and animals responded to a threat with the activation of the sympathetic nervous system which prepares the body for fighting or fleeing from the threatening situation. More recent research has shown that if we believe there is no hope for defeating the stressor, or escaping from it, a third option is enacted through the parasympathetic nervous system. We become relaxed to the point of being unable to move (tonic immobility), and therefore tend to **"freeze"**. Similar to the flight/fight response, a freeze response is believed to be adaptive. In the context of predatory attack, some animals will freeze or "play dead." Because freeze responses are now believed to be a fundamental part of our stress response system, psychologists now describe our response when we are faced with a stressor as consisting of three response options which are **"fight – flight – freeze".**

HELPFUL ONLINE RESOURCES

For more information about the fight – flight – freeze response view the following videos. Fight Flight Freeze – Anxiety explained for Teens
https://tinyurl.com/4893237t

Fight Flight Freeze Response
https://tinyurl.com/wtabwy53

HELPFUL ONLINE RESOURCES

Watch the following two clips from the UK show I'm a celebrity get me out of here. Jordan is fearful of snakes and enclosed spaces. The trial is explained. Jordan becomes quieter; starts nodding and shaking; he starts sweating and shaking; he starts saying, 'I can't do it' and starts crying; he says that his legs are like jelly. He is completely overwhelmed and terrified. https://tinyurl.com/d78jxh4d

PHYSIOLOGICAL RESPONSES TO STRESS

Immediate stressors activate the **Autonomic Nervous System** (ANS). The Autonomic Nervous system governs itself, it doesn't require conscious thought to operate body functions such as heartbeat, breathing, digestion – in other words these parts of our bodies function automatically.

The ANS is divided into two branches. The **sympathetic nervous system (SNS)** and the **parasympathetic nervous system (PNS)**. The SNS arouses our bodies to be ready for fight or flight, and the parasympathetic nervous system returns us to a state of relaxation. When we are exposed to a stressor, the SNS is activated.

Think about the last time you were about to cross the road, and a car whizzed past too quickly and scared you. Looking at the diagram of the fight or flight response – did you start breathing faster, did your muscles tense up, did your heart rate speed up? Think about the last time you had to do an oral presentation at school or perform on stage. Did you get nervous? Did you need to go to the toilet frequently? These are all symptoms of the fight or flight response preparing your body to deal with the stressor you are facing.

PSYCHOLOGICAL RESPONSES TO STRESS

In a stressful situation, our emotional responses to the stressor may become heightened. So, if you might normally respond to a stressor quite rationally,

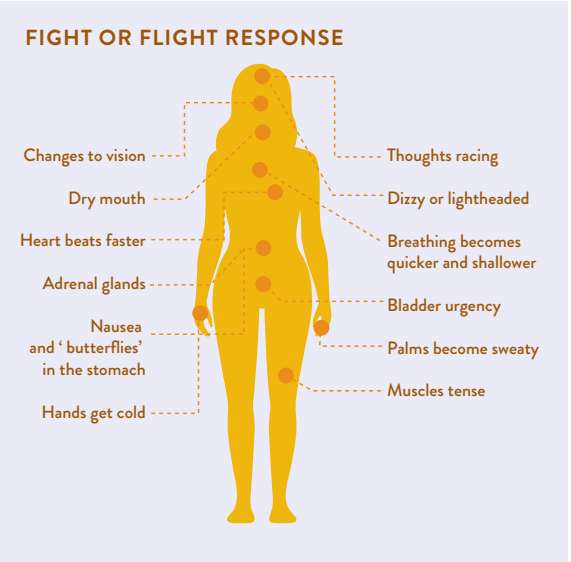


Figure 2.4.8: Fight or flight responses throughout the body.

when you are distressed you are likely to have higher levels of your emotional responses – you may be angrier, experience higher levels of frustration, feel extremely sad or more fearful than you normally would. Your thinking processes are affected, and you tend to have racing thoughts that are uncontrollable. Your thoughts are likely to be exaggerated, more irrational and may include thoughts that the stressor will never go away. Persistent thoughts about the stressor, may make it hard to rest and sleep. As a result, your problem-solving strategies are hindered and therefore your ability to deal with or solve the cause of the stress is impacted.

POSITIVE EFFECTS OF THE FIGHT AND FLIGHT RESPONSE ON HEALTH

The positive effects of the fight or flight response are seen when the stress response activates to protect you when you encounter a perceived threat, for example a large dog runs towards you barking loudly while you are walking home from school. The hypothalamus in the brain activates your body's response. **Adrenaline** increases your heart rate, elevates your blood pressure and boosts energy supplies. **Cortisol**, the primary stress hormone, increases sugars (glucose) in the bloodstream, enhances your brain's use of glucose and increases the availability of substances that repair tissues.

Cortisol also curbs functions that would be non-essential or harmful in a fight-or-flight situation. It alters immune system responses and suppresses the digestive system, the reproductive system and growth processes. This complex natural alarm system also communicates with the brain regions that control mood, motivation and fear.

When you are confident in your ability to overcome the stressor, you are more likely to experience positive stress. This positive assessment of the stressor helps channel the energy provided by the fight or flight response in ways that help work towards a solution. Consider the information in the table below. Does the stress of your end of year Psychology exam create the signs of eustress, or distress? If you were an Olympian, do you think you would be motivated by the gold medal final event, or would the stress be too overwhelming? In the short term, the stress response has a positive impact on our ability to cope.

EUSTRESS SIGNS	DISTRESS SIGNS
Provides productive energy	Provides restless energy
Helps increase focus	Decreases focus
Increases motivation	Increases procrastination/ avoidance
Is often experienced as excitement	Increases fear/concern
Feels manageable	Feels overwhelming
Improves performance	Impairs performance
Associated with confidence	Associated with insecurity
Expectation of a positive outcome	Fear of a negative outcome

Figure 2.4.9: The effect activation of the sympathetic nervous system has in response to a stressor.

NEGATIVE EFFECTS OF THE FIGHT AND FLIGHT RESPONSE ON HEALTH

The length of time the body's stress response system is activated is usually limited. Once the threat has passed, hormone levels return to normal. The parasympathetic nervous system causes adrenaline and cortisol levels to drop, your heart rate and blood pressure return to baseline levels, and other systems resume their regular activities.

The problem arises when stressors are always present and you constantly feel under attack, that fight-or-flight reaction stays turned on. The long-term activation of the stress response system and the overexposure to cortisol and other stress hormones that follows can disrupt almost all your body's processes. This puts you at increased risk of many health problems, including:

- Anxiety
- Depression
- Digestive problems
- Headaches
- Muscle tension and pain
- Heart disease, heart attack, high blood pressure and stroke
- Sleep problems
- Weight gain
- Memory and concentration impairment

That's why it's so important to learn healthy ways to cope with your life stressors.

CHECKING FOR UNDERSTANDING

"Stress is a normal human response to anything physical or emotional that places a strain on the person. Stress that arises during a specific moment for a short period of time, can be helpful in navigating that specific situation."

Using one of the scenarios provided on page 138, or choosing one of your own, respond to the statement above. You are required to provide evidence-based statements to agree with, disagree with and provide counter arguments to arrive at a conclusion about whether the 'fight or flight response' has a positive or negative effect on health.

SCENARIOS:

Tasmyn has her first job interview in an hour.

Anaya has been experiencing frustration at home due to not having her own study space to complete her assignments for school. It is now term 4, and end of year exams are in two weeks' time.

Chakrii is an athlete who has been training for the downhill ski event in the Olympic winter games for the last 4 years. His big event is tomorrow.

Birrani is required to provide a Welcome to Country in front of his whole school community. He has done this before, but not in front of so many people.

Bao is on her L's and is in the middle of a driving lesson with an instructor. Bao has just hit the curb accidentally during the reverse parking activity.

Create your own scenario.

BIOPSYCHOSOCIAL FRAMEWORK OF STRESS

Read the scenario below and complete the diagram by explaining the biological, psychological, and social factors associated with the stress response.

Ollie is the kind of person who is not very assertive, he finds it hard to make conversation in social situations. He wants people to like him and wants to please his parents by being successful at school. He studies three hours a night, but much of this time is unproductive as he spends time worrying about whether his schoolwork is good enough rather than trusting himself to do his best work. He often misses deadlines for his assignments as he feels stressed about submitting work that is not good enough. He experiences shortness of breath, racing heartbeat and feels dizzy in class when the teachers start handing tasks back to students, and also experiences these same symptoms when he is asked a question in class. These symptoms have been happening on and off for three months, and on a few occasions, he has had to leave class as he has snapped rudely at the teacher to avoid answering a question. His friends have noticed him snapping at them as well and have started to avoid him at lunch times.

Biological	Psychological	Social

Selye's General Adaptation Syndrome

Hans Selye, a Vienna-born scientist, working in the 20th century, was the first person to describe the **General Adaptation Syndrome.**

Selye explained the GAS as the body's way of adapting to a perceived threat to better equip it to survive. A paper on Selye's GAS theory was published in The Journal of Clinical Endocrinology in 1946.

Building on Cannon's theory about the bodies stress response, Selye identified three stages of stress which explains the initial alarm reaction phase where the flight or fight response occurs, then added two more stages when stress is not resolved and continues to impact our lives.

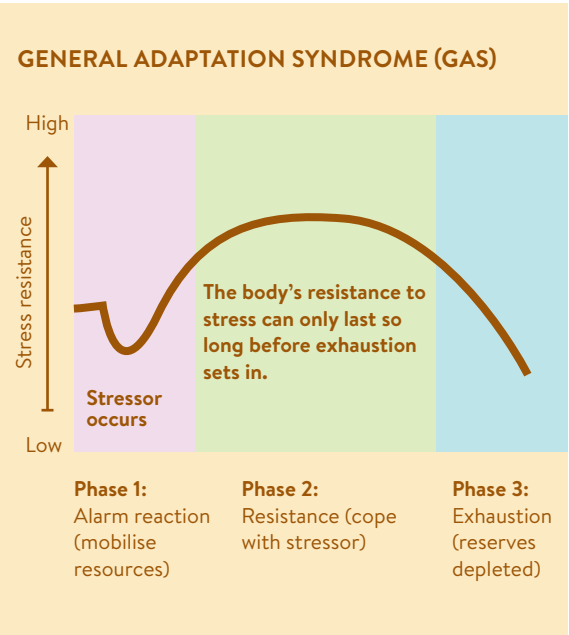


Figure 2.4.10: Hans Selye's General Adaptation Syndrome. Our stress response system defends, resists, then fatigues over time.

ALARM REACTION STAGE

At the alarm reaction stage, a distress signal is sent to a part of the brain called the **hypothalamus**. The hypothalamus enables the release of hormones called glucocorticoids.

Glucocorticoids trigger the release of adrenaline and cortisol, which are stress hormones. The adrenaline gives a person a boost of energy. Their heart rate increases, and their blood pressure rises. Meanwhile, blood sugar levels also go up.

These physiological changes prepare a person to respond to the stressor they are experiencing.

RESISTANCE

During the resistance stage, the body tries to counteract the physiological changes that happened during the alarm reaction stage. The resistance stage is governed by a part of the ANS called the **parasympathetic nervous system.**

The parasympathetic branch of the ANS tries to return the body to normal by reducing the amount of **cortisol** produced. The heart rate and blood pressure begin to return to normal. If the stressful situation comes to an end, during the resistance stage, the body will then return to normal. However, if the stressor remains, the body will stay in a state of alert, and stress hormones continue to be produced. This physical response can lead to a person struggling to concentrate and becoming irritable.

EXHAUSTION STAGE

After an extended period of stress, the body goes into the final stage of GAS, known as the exhaustion stage. At this stage, the body has depleted its energy resources by continually trying but failing to recover from the initial alarm reaction stage.

Once it reaches the exhaustion stage, a person's body is no longer equipped to fight stress and their immune system is weakened. They may experience:

- tiredness
- depression
- anxiety
- feeling unable to cope

If a person does not find ways to manage stress levels at this stage, they are at risk of developing

stress-related health conditions. A weakened immune system makes people more vulnerable to common viruses such as colds, flu and gastrointestinal viruses ultimately leading to sickness in the short term.

STRESS-RELATED ILLNESS

Unpacking each of the body's fight or flight responses highlights health issues when stress is long term.

The fight or flight response has an effect on the digestive system. During stress digestion is halted, and after stress digestive activity increases again. This can affect the health of the digestive system and cause stomach ulcers. Adrenaline released during a stress response may also cause ulcers.

What is the immune system?
The immune system is designed to defend the body against millions of antigens (bacteria, viruses, toxins and parasites). None of these things are able to get in when your immune system is working properly. The moment your immune system stops functioning efficiently, we are less resistant to these antigens enteringw our body and therefore causing us to get sick.

How does the immune system protect us?

1. It creates a barrier that stops the antigens getting in.
2. If an antigen (e.g. the cold virus) does get into the body, the immune system tries to detect and eliminate it before it can reproduce.
3. If the virus does start causing problems, the immune system is responsible for eliminating it.

Stress increases strain on our circulatory system due to increased heart rate. Stress can also affect the immune system by raising blood pressure. Hypertension (consistently raised blood pressure over several weeks) is a major risk factor in heart disease.

Stress also produces an increase in blood cholesterol levels, through the action of adrenaline and noradrenaline on the release of free fatty acids.

Stress can also have an indirect effect on illness as it is associated with all manner of bad habits (coping strategies), for example smoking, drinking alcohol to excess, poor diet due to lack of time, lack of exercise for the same reason and lack of sleep.

All of these are likely to have a negative effect on a person's health.

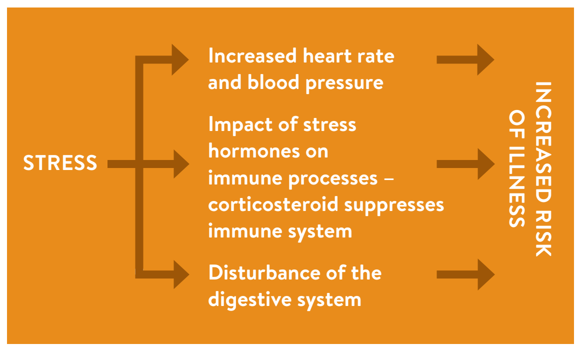


Figure 2.4.11: When subjected to prolonged stress, our body's stress response can have a negative impact on our health and make us more prone to illness.

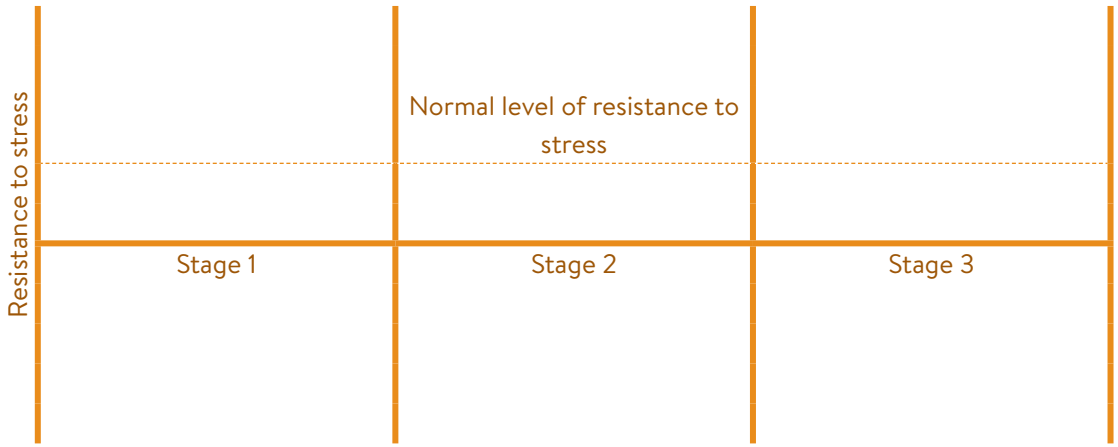
CHECKING FOR UNDERSTANDING

Consider the three sources of stress discussed earlier – daily pressures, life changes and major catastrophes affecting an entire community.

Select one of these sources of stress and explain using your own example how this stress might lead to exhaustion according to Selye's General Adaptation Syndrome.

SELYE'S GENERAL ADAPTATION SYNDROME

Complete the diagram below by identifying the stages of the GAS and show how resistance to stress changes throughout each stage.



Use Selye's General Adaptation Syndrome model to explain the long-term effects of stress on health. Ensure that you describe the characteristics and the effect on health at each stage.

To what extent is there a cause-and-effect relationship between stress and illness? Does stress cause illness or does stress make you more prone to illness?

SCHOOL ASSESSED TASK IDEA: – WORKPLACE STRESS AND BURNOUT

Burnout refers to the emotional depletion and loss of motivation that results from exposure to chronic stressors. In January 1948 the Commonwealth Arbitration Court in Australia gave the official assent to the 40-hour, five day working week. The push for "work/life" balance was associated with the symbol '888'; eight hours' work, eight hours' personal time and eight hours' sleep. More than 70 years later this 'balance' has eluded most Australians, with working from home meaning that people are working longer hours, and not being able to separate work time from personal time.

- Investigate the types of occupations showing the greatest frequency of burnout.
- Investigate the impact of working from home compared to working at the office.
- Determine whether the stressors are short term or long term.
- Research and evaluate the methods used to measure 'burnout'.
- Identify strategies that employers and employees can do to minimise the likelihood that burnout may occur.

BURNOUT

Although most jobs and occupations can at times be demanding, some are much more stressful than others. One of the most stressful jobs is that of an air traffic controller. Usually, they work no more than one and a half to two hours at a time before they must have a 30-minute break.

Jobs containing various unpleasant elements, such as those requiring exposure to loud noise (heavy equipment operator), constant harassment and threats of physical violence (prison guard), perpetual frustration (bus driver in a major city), or those mandating that an employee work alternating day and night shifts (hotel desk clerk), are much more demanding—and thus, more stressful—than those that do not contain such elements.

Figure 2.4.12: Police officers and firefighters hold high stress occupations.

OCCUPATION	STRESSORS SPECIFIC TO OCCUPATION (SULSKY & SMITH, 2005)
Police officer	physical dangers, excessive paperwork, red tape, dealing with court system, coworker and supervisor conflict, lack of support from the public
Firefighter	uncertainty over whether a serious fire or hazard awaits after an alarm
Social worker	little positive feedback from jobs or from the public, unsafe work environments, frustration in dealing with bureaucracy, excessive paperwork, sense of personal responsibility for clients, work overload
Teacher	Excessive paperwork, lack of adequate resources or facilities, work overload, lack of positive feedback, poor student behaviour, threat of physical violence
Nurse	Work overload, heavy physical work, patient concerns (dealing with death and medical concerns), interpersonal problems with other medical staff (especially physicians)
Emergency medical worker	Unpredictable and extreme nature of the job, inexperience
Air traffic controller Watch a short video about the life of an air traffic controller in London.	Little control over potential crisis situations and workload, fear of causing an accident, peak traffic situations, general work environment **https://tinyurl.com/yrb4tytr**
Clerical and secretarial work	Little control over job mobility, unsupportive supervisors, work overload, lack of perceived control
Managerial work	Work overload, conflict and ambiguity in defining the managerial role, difficult work relationships

Occupations and Their Related Stressors (Sulsky and Smith (2005)

Some people who are exposed to chronically stressful work conditions can experience job **burnout**, which is a general sense of emotional exhaustion in relation to their job. Job burnout occurs frequently among those in human service jobs (e.g., social workers, teachers, therapists, and police officers). Job burnout consists of three dimensions.

Exhaustion: a sense that your emotional resources are drained or that you have nothing more to give at a psychological level.

Depersonalisation: a sense of emotional detachment between you and your customers / clients / students, often resulting in callous, cynical, or indifferent attitudes towards work.
Lack of personal accomplishment: the tendency to view your work negatively. For example, experiencing dissatisfaction with your job-related accomplishments or feeling as though you have failed to influence others' lives through your work.

Coping strategies for stress

In psychology, coping skills or coping strategies are a set of adaptive tools that we proactively use to avoid burnout. These tools can be our thoughts, emotions, and actions and are dependent on our personality patterns.

Lazarus and Folkman (1984) were some of the first people to research coping skills and established that coping involves spending our mental energy in ways that reduce stress and is high individualised. The way we each cope with the same stressful situations can be vastly different dependent on our personality. Coping strategies can be positive or negative depending on whether they increase or decrease our mental wellbeing as a result of using a particular strategy. A copying strategy may in fact make our stress levels worse.

When attempting to cope with stress, we can do one of two things. Use an active approach strategy to target the stressor and do something about it, or challenge the way we think about the stressor. Alternatively we can use an avoidance strategy to avoid or escape the threatening thoughts, feelings, memories or sensations associated with the stressor. How do you manage the stress associated with Year 12? Do you tackle it head on and deal with the stressors day by day, or do you put your head in the sand and avoid dealing with it? Think about the way your friends deal with stressors like exams, you will see a range of different coping responses. Some people will pace around or tell you how worried they are, others will revise, or pester their teachers for clues.

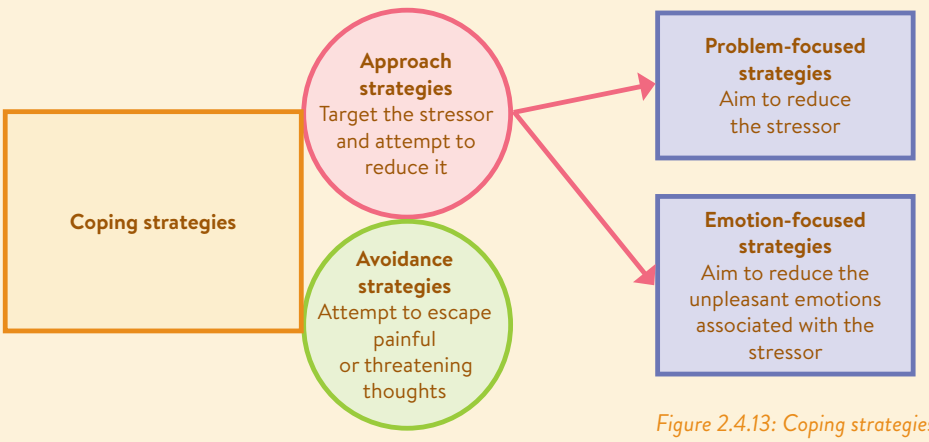


Figure 2.4.13: Coping strategies for stress.

PROBLEM FOCUSED COPING STRATEGIES

Problem-focused coping strategies target the causes of stress in practical ways which tackles the problem or stressful situation that is causing stress, consequently directly reducing the stress. In general, problem-focused coping is best, as it deals with the stressor therefore dealing with the root problem and providing a long-term solution. For example, if your stressor is your upcoming assessment task for Psychology, making a start on it as soon as possible deals with the cause of the stress, allows you to complete the task and the stressor is removed. Let's explore some problem-focused strategies in more detail.

TIME MANAGEMENT

Time management is the process of organising and managing your time. Good time management helps you schedule your time between your most important activities. Effective time management means you take control of your time and energy. Taking control of your time enables you to achieve bigger and better results in less time, without the stress.

BENEFITS OF EFFECTIVE TIME MANAGEMENT

Physical

- With better time management, tasks are able to be met on time, and you are able to produce a better quality of work.
- Increased energy and motivation. When you have more energy, you are focused and more productive. Good time managers schedule their time and take regular breaks to keep energy levels up.

Psychological

- **Cognitive** – better planning and prioritising can help you feel organised, so you are then confident about what needs to be done in which order. This brings back a sense of control over the situation.
- Less procrastination and time wasting.
- **Emotional** – promotes a positive sense of self-esteem as you are taking control over the situation.

Social

- Time management might result in you being able to delegate tasks to other people so that they share some of the load of the problem you are managing.
- Better time management can provide a better work-life balance. This means more time for spending with friends, and more time for pleasant activities you would rather be doing.

ASSERTIVENESS TRAINING

Communicating and acting assertively is an interpersonal skill that helps people to maintain healthy relationships, resolve interpersonal conflict, and prevent one's needs from being stifled or repressed. Assertiveness can be understood as a relational style that treads a middle path between being passive and being aggressive. **Assertiveness training** is explained in detail in topic one. Refer to page 63 for details about how assertiveness training can be used to reduce stress.

BENEFITS OF ASSERTIVENESS TRAINING

Physical

- Being able to relax more as you are not feeling passive or aggressive about the situations that have been causing you stress.
- New negotiation and problem-solving skills that you are able to put into practice on a daily basis.

Psychological

- **Cognitive** – having greater awareness of your own needs and a greater ability to meet them.
- Being able to create personal and professional goals instead of putting everyone else first.
- **Emotional** – feeling more confident in your interactions with other people.

Social

- Improved interpersonal relationships with friends, family and colleagues.

RELAXATION OR MEDITATION

One of the most well-known and well-studied forms of meditation is the Mindfulness Based Stress Reduction, or MBSR. Developed by Jon Kabat-Zinn in the late 70s, MBSR is a useful tool for those experiencing anxiety, depression, fatigue, general stress, and much more. In fact, one study conducted

looked at the results of 17 studies on MBSR, finding that 16 of them demonstrated positive effects related to stress and/or anxiety. There are many ways to practice mindfulness, one of which is meditation. Not all people find it easy to meditate, so just finding "your thing" that is relaxing is as a useful starting point for reducing stress symptoms.

LISTEN TO CALMING MUSIC

Music has a profound effect on both body and mind. When it comes to releasing stress, listening to calming music can quickly help us to enter a state of greater calm.

CREATE A SAFE, PEACEFUL SPACE

We should all have a safe quiet place we can go to when we are feeling stressed, either at home, school or work. This would be a place to turn to whenever we need to take time out to reset and deal with the stress symptoms. If we're on the go, we can practice turning towards the safe, tranquil space within us, closing our eyes for a few deep breaths.

FOCUS ON THE BREATH FOR ONE MINUTE

As a momentary reset in the middle of the day, watching our breath for even just one full minute can have a deep impact. By giving the mind a break, breath focus helps us to step back into the present moment.

Try the following meditation scripts for stress management https://tinyurl.com/zjrenz5c

BENEFITS OF RELAXATION OR MEDITATION

Physical

- Initiating the relaxation response counters the stress response. Becoming more mindful of the present moment slows your heartrate and breathing down, reversing the impact of the sympathetic nervous system. This brings us closer to a relaxed state.
- Meditation has been found to lower the functioning of the amygdala; a part of the brain involved in our stress response. Over time, mindfulness can change our neural networks, and support us in times of stress.

Psychological

- The more we practice mindfulness and relaxation strategies, the greater our perspective of the stressful problem changes. A shift in perspective helps us to better manage stressors when they arise.
- Improvement in mood, emotional regulation, confidence, self-esteem and ability to pay attention.

Social

- Improvement in social skills and relations as a result of being able to regulate emotions and stay in control.

EXERCISE

A lot of the immediate feelings of stress are caused by the fight or flight response. Our muscles tighten our heartrate goes up – and if we aren't able to deal with the stress straight away, we remain 'uptight'. Physical exercise is therefore an excellent and natural way to restore our body to a calmer state.

Physical exercise provides an outlet and release for the physical stress by releasing the build-up of muscle tension that occurs when we are stressed.

BENEFITS OF EXERCISE

Physical

- Depletes the body of excess stress hormones (cortisol) and strengthens the immune system.
- Reduces risk of illness and disease and assists with recovery from injury.
- Helps maintain a healthy heart rate, blood pressure and general physical health.
- Relaxes tense muscles.
- Produces "feel good" hormones including serotonin and endorphins.

Psychological

- **Cognitive** – reduces mental fatigue, improves alertness and concentration, reduces anxiety.
- **Emotional** – promotes a positive mood because of increased serotonin and endorphins.
- Empowers you to feel positive as you are taking a proactive action to make yourself feel better.

Social

- When exercise is done in the company of others, this increases social contact, enacts our social support network which can reduce feelings of having to deal with the stressor alone.
- Talking to someone about your problem can be seen as "a problem shared is a problem halved".

EMOTION FOCUSED COPING STRATEGIES

Emotion-focused coping strategies focus on regulating negative emotional reactions to stress such as anxiety, fear, sadness, and anger. This type of coping may be useful when a stressor is something that you cannot change. With emotion-focused coping, we can find ways to accept what we face right now, and not let it bother us.

Another advantage of emotion-focused coping is that it allows us to think more clearly and access solutions that may not be available if we are feeling overwhelmed. Because stressed people do not always make the most effective decisions, emotion-focused coping can be a strategy to get into a better frame of mind before working on problem-focused techniques. In this way, emotion-focused coping can help with both emotions and solutions.

Positive emotion-focused strategies include disengaging from the emotions related to the stressor, seeking emotional support from others, expressing emotions creatively (art therapy, doodling, through music) and just venting emotions to others. Negative strategies typically end up being avoidance strategies and include denial, withdrawing from others and social situations, avoiding tackling the problem, oversleeping, substance abuse, overeating, shifting blame to others or just giving up dealing with the situation altogether. Avoidance strategies are generally ineffective because they don't encourage people to seek social support or engage in problem solving activities.

Practical strategies for positively using emotion-focused strategies include:

JOURNALING

Journaling allows you to manage emotions in several ways. It can provide an emotional outlet for stressful feelings. It can also enable you to brainstorm solutions to problems you face. Journaling also helps you to cultivate more positive feelings, which can help you to feel less stressed.

REFRAMING

Cognitive reframing allows you to shift the way you see a problem, which can actually make the difference between whether or not you feel stressed. Reframing techniques aren't about "tricking yourself out of being stressed," or pretending your stressors don't exist; reframing is more about seeing solutions, benefits, and new perspectives.

POSITIVE THINKING

Being an optimist involves specific ways of perceiving problems—ways that maximize your power in a situation and keep you in touch with your options. Both of these things can reduce your experience of stress and help you to feel empowered in situations that might otherwise overwhelm you.

SCIENCE INQUIRY SKILLS

Extended response

A researcher wanted to investigate whether the coping strategies used by passengers who had been involved in a car crash contributes to them developing post-traumatic stress syndrome PTSS themselves. The researcher studied three coping strategies that people used.

- ***problem-focused*** *– doing something such as seeking information about how to manage their mental health, making a plan to get back to driving again or getting advice*
- ***emotion-focused*** *– looking for support or comfort from others, using humour to lighten the situation or trying to see the situation in a new way*
- ***avoidance*** *– not thinking or doing anything about their stress. Turning to other coping strategies such as drinking or denying there are any real problems.*

Participants who had been admitted to hospital after being involved in a car accident as a passenger agreed to participate in the research. Participants were surveyed about their coping strategies 5 days after their accident, and then again 30 days later to see if their coping strategies had changed. Three months later, they were tested for Post-Traumatic Stress Syndrome.

Results for the 50 people surveyed as are as follows:

29% of people who used problem-focused coping strategies showed clinically diagnosed PTSS symptoms

25% of people who used emotion-focused coping strategies showed clinically diagnosed PTSS symptoms

53% of people who used avoidance strategies showed clinically diagnosed PTSS symptoms

Present the results from this investigation in an appropriately labelled graph

Analyse the results and determine whether a conclusion can be drawn. Justify your conclusion by referring to the results of the research.

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Critically evaluate the procedures by identifying sources of uncertainty including confounding and extraneous variables

Discuss how the researcher might ensure the following ethical practices have been maintained.

Respect for the dignity and wellbeing of the participants

Informing the participant of the nature and purpose of the research and of any physical or psychological effects that may be expected.

Informing participants of the results and conclusions of the research.

CHECKING FOR UNDERSTANDING

Conduct some research into one problem-focused, and one emotion-focused strategy for coping with stress. This may be one of the strategies discussed throughout this chapter, or another strategy of your choice. Locate some evidence-based research that discusses your chosen strategy. Based on the research, evaluate the effectiveness of your strategy, and share this with the class.

PROBLEM-FOCUSED COPING STRATEGY:		
Description of this approach	**Evidence based research for your problem-focused coping strategies**	**Evaluation of the effectiveness of problem-focused strategies**
EMOTION-FOCUSED COPING STRATEGY:		
Description of this approach	**Evidence based research for your problem-focused coping strategies**	**Evaluation of the effectiveness of problem-focused strategies**

SCHOOL ASSESSED TASK IDEAS

Focus group and presentation:

Insights: youth mental health and wellbeing over time – headspace National Youth Mental Health Survey 2020 **https://tinyurl.com/t4bamxkw**

Use the data and statistics from the 2020 National Youth Mental Health Survey as the basis for a Focus Group. Compare the results from your focus group with the data in the survey and prepare a presentation to share back with the participants in the focus group which outline a range of coping strategies to manage stress.

Research essay: Conduct online research into the effect on mental health for society as a result of the ongoing impact of Covid 19. Investigate issues such as remote learning for school students, working from home, reduced social opportunities, unemployment, ongoing illness, social impacts of travel restrictions, family relationships.

Transfer assignment: Explore the link between personality factors and stress. You might like to explore Personality Type theories, or any of the other theories covered in Topic 1. Describe four research findings relating to the relationships between personality and stress and give one criticism of each of these findings.

2.5 MENTAL HEALTH DISORDERS

Anxiety disorders and depression are the most prevalent types of mental health problems among adolescents.

- Discuss how cognitive-behavioural therapy (CBT) could be used to treat anxiety and depression.
- Discuss systematic desensitisation in the treatment of phobias.
- Discuss some of the ethical issues associated with the treatment of anxiety disorders, depression and phobias.

2022 Subject Outline | Stage 2

Mental health fluctuates along a continuum from good mental health to mental health disorders. It is **IMPORTANT** to note that mental illness does not mean incapacity to live functional life, for example, a surgeon may have depression but is still able to work and maintain his family relationships and responsibilities. A teacher may have social anxiety yet stands in front her students each day and engages them in learning.

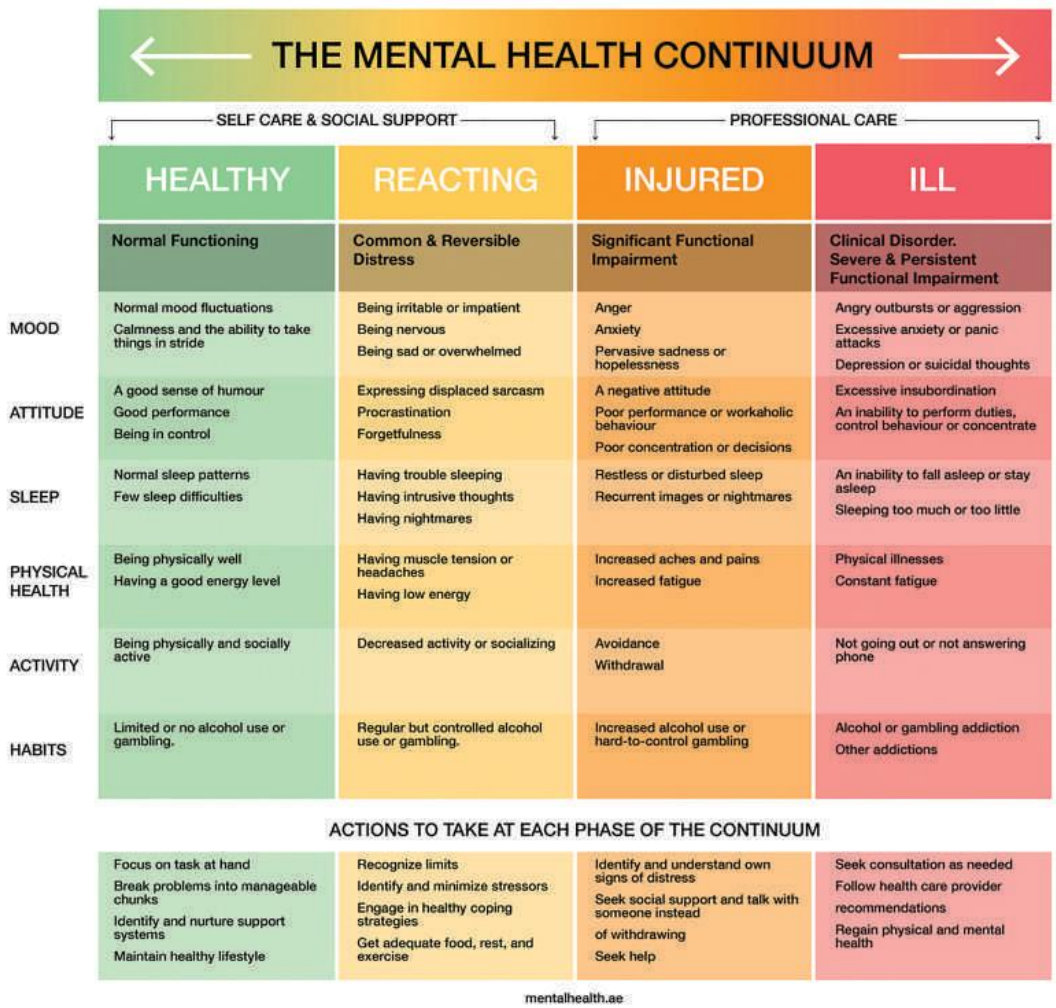

Figure 2.5.1: The mental health continuum by DR Karim Dharssi.

What do we know about mental illness?

Contrary to belief, most people with a mental illness live productive and positive lives whilst receiving treatment for their illness.

Mental illness does not respect boundaries of race, ethnicity, socio-economic status or geography, i.e., anyone is susceptible to developing a mental illness.

Numerous mental illnesses begin in childhood and persist into adolescence such as:

- Anxiety.
- Depression.
- Oppositional Defiant Disorder (ODD)
- Conduct Disorder (CD) (usually leads to ASPD)
- Tourette Syndrome.
- Obsessive-Compulsive Disorder (OCD)
- Post-traumatic stress disorder (PTSD)

Other forms of mental illness commonly begin in adolescence such as:

- Major depressive disorder
- Eating disorders
- Schizophrenia
- Bipolar

Anxiety disorders and depression are the most prevalent types of mental health problems among adolescents. We know everyone faces challenges in their life – that's normal, but for some young people, feelings of sadness and anxiety begin to interfere with their life.

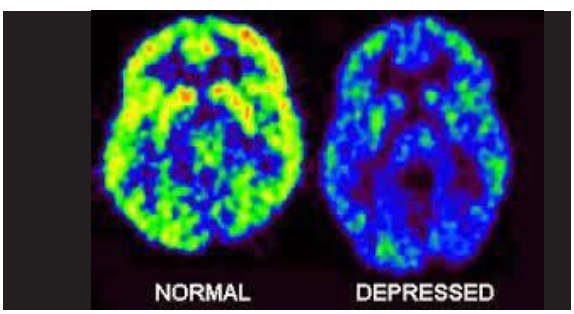

Figure 2.5.2: Normal versus Depressed brain activity which is evident by the green and yellow areas.

Most research regarding the cause of **depression** indicates that the complex interaction between biology, psychology, and environment are responsible. However, it is widely accepted that a major link in the development of depression is due to a chemical imbalance in several **neurotransmitters**, such as Serotonin, Dopamine and Norepinephrine (also known as noradrenaline and key in the fight/flight response). Low levels of serotonin have been found in patients with depression but not in those with other psychotic based illnesses. The Neurotransmitter hypothesis can be tested using sophisticated research methods such as PET scans and MRIs imaging technology which not only shows the structure of the brain but can show the brain functioning and responding to stimuli in real time. A range of studies have reported reduced activity in the frontal lobe with weak communication between the frontal lobe and the amygdala in patients who had depression compared to healthy controls.

In addition to brain imaging the alleviation of symptoms by medication aimed at restoring chemical such as SSRI's (select serotonin reuptake inhibitors) provides stronger evidence that susceptibility to depression is linked with deviations in presynaptic and postsynaptic neurotransmitter turnover and function. You can watch a short video on this by clinking on the link below.

Genetic predisposition has also been linked to the development of numerous mental illnesses.

HELPFUL ONLINE RESOURCES

SSRI's and their role in increasing serotonin: https://tinyurl.com/5yca5ssk

Netflix Documentary: "Three identical strangers" tells the sad story of three boys sepertated at birth who find one another and learn about their uncanny similarities, inlcuding experiences with mental illness. This is based on a true story and raises concerns regarding the ethics of conducting research.

Conduct research to complete the following table. Make sure that you use credible sources.

Mental illness	Definition	Diagnostic criteria/Symptoms
Depression		
Anxiety		

Use the information from this table to create an infographic on either depression or anxiety in young people.

Family studies show that those with a first degree relative (parent or sibling) with depression have an increased risk of developing depression. Harrington, 1993 found the risk for families is around 20% compared to those in the population who do not have a family history have approximately 10%. This is further supported by Adoption studies which showed a higher incidence of those with biological relatives who had depression compared to those whose relatives did not have history of depression. The strongest evidence of a genetic link comes from twin studies which assumes that if there is a genetic heritability, monozygotic twins (identical) would have a much higher incidence of depression, alongside other mental illness compared to fraternal twins (non-identical). Numerous studies have reported concordance rates of approximately 50% for monozygotic twins compared to 20% for fraternal twins supporting the existence of a strong genetic link.

What can we conclude regarding the role of genetics given that concordance rate (the % of pairs of twins who exhibit a disorder) is not 100%?

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Whilst a genetic predisposition increases the susceptibility of developing depression, the **diathesis-stress model** explains mental illness as the complex interaction of genes and environmental stressors. This suggests that genetics alone are not the cause of developing a mental illness such as depression and anxiety. Additional factors such as neglect, abuse, trauma chronic illness or disability, bullying and on-going parental conflict may cause psychological distress. These challenging life experiences may cause the individual to develop a negative schema at a young age which carries through into adulthood leaving these individuals with a pessimistic outlook on life.

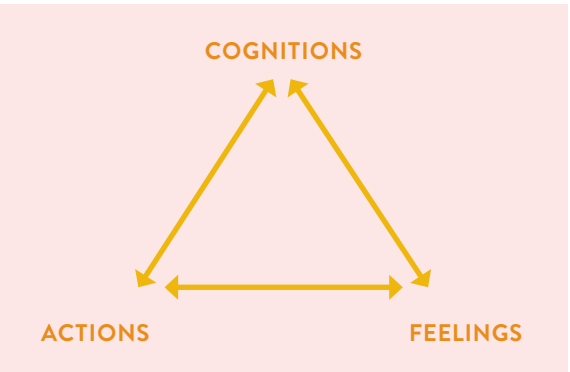


Figure 2.5.3: Diagram showing the basic cognitive model depicting the interrelationships among thoughts, feelings, and behaviours.

Beck (1967) refers to this as the negative cognitive triad which reinforces the negative beliefs of the self, the world, and the future which are subjective but defining features of depression. Beck proposes

that people with depression develop cognitive distortions, a type of cognitive bias sometimes also referred to as faulty or unhelpful thinking patterns. Beck referred to some of these biases as "automatic thoughts", suggesting they are not entirely under conscious control. A central tenet of the cognitive theory is that our thinking influences our emotional and behavioural experiences and vice versa.

COGNITIVE BEHAVIOURAL THERAPY (CBT)

Cognitive behavioural therapy (CBT) is a form of psychological treatment that has been demonstrated to be effective for a range of mental health disorders including depression, anxiety disorders, alcohol, and drug use problems, eating disorders and severe mental illness. Numerous research studies suggest that CBT leads to significant improvement in functioning and quality of life. Aaron Beck was the first Psychiatrist to practice CBT. While practicing psychoanalysis, Beck noticed the prevalence of negative or critical internal dialogue in his clients and realized how strong the link between thoughts and feelings can be.

CBT aims to change our thought patterns, our conscious and unconscious beliefs, our attitudes, and, ultimately, our behaviour, to help us face difficulties and achieve our goals. First, CBT makes you aware you have these thoughts. Then it teaches you to swap them for more positive ones. The change in your attitude leads to a change in your behaviour. At times you may wonder what is the point of trying? CBT will help you identify that this is an unhelpful thought which you need to challenge with a helpful thought, sometimes simply a positive alternative, e.g., there is no failure in trying. The diagram below shows some of the common cognitive distortions that people with depression commonly have.

The principle of CBT is now widely used in a range of therapies aimed at addressing maladaptive behaviours, thinking and beliefs. Most people engage in CBT for a period of five to six months which involves them completing exercises outside of the sessions to help develop new coping skills and provide an opportunity to continuously reinforce them. When completed effectively, clients will be able to engage these skills throughout their life when facing challenges.

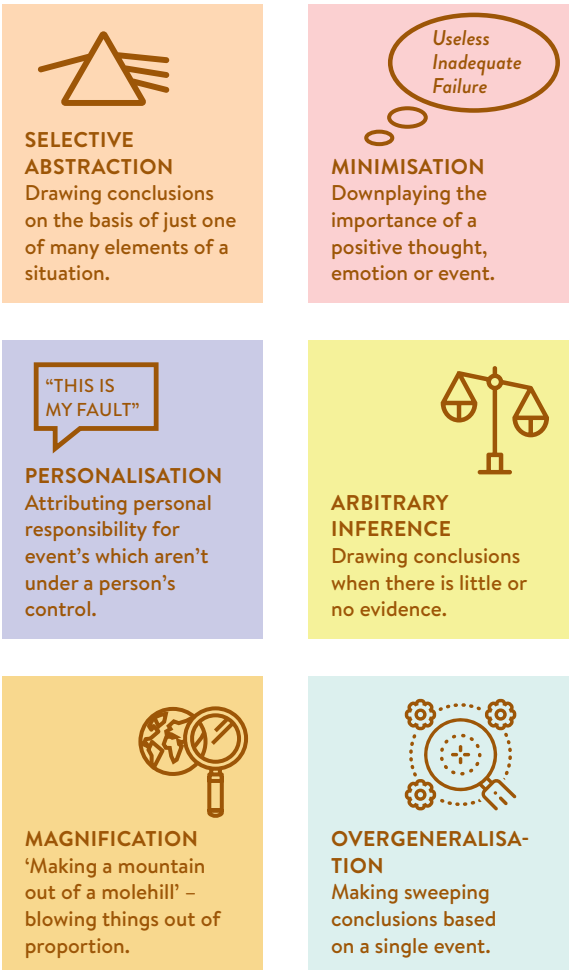


Figure 2.5.4: Diagram showing examples of some of the cognitive biases used by depressed individuals, according to cognitive theories including Beck's cognitive model.

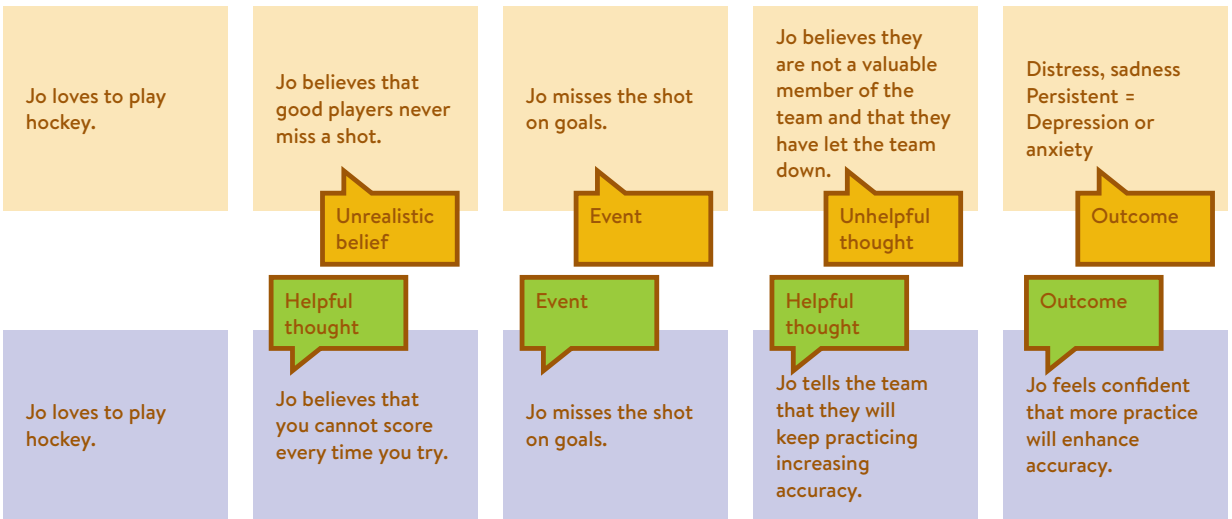
HELPFUL ONLINE RESOURCES

The following clip shows a young man talking through some of the typical maladaptive thought processes that people with depression and anxiety tend to experience.

See how many you identify with.
https://tinyurl.com/4zbxbr9f

Other psychological explanations of depression include the concept of **learned helplessness** (covered in the learning topic) and attributional style. Likewise, individuals with an internal locus of control are less likely to be impacted by adverse experiences compared to those with an external locus of control. Read more here: https://tinyurl.com/uxm39wd2

MALADAPTIVE THINKING



"This simple idea is that our unique patterns of thinking, feeling, and behaving are significant factors in our experiences, both good and bad. Since these patterns have such a significant impact on our experiences, it follows that altering these patterns can change our experiences" (Martin, 2016).

Advantage:
Teaches strategies that can be applied to a range of situations
Relatively quick and effective for depression and anxiety
Disadvantage:
Not suitable for complex mental illness
Requires cognitive and emotional competence, therefore it is not suitable for everyone.

Combining medication with CBT

Biological explanations for anxiety also look to the role of **genetics**. Extensive genetic studies of the serotonin (5-hydroxytryptamine, 5-HT) transporter (5-HTT) gene have revealed how variation in gene expression can be correlated with anxiety. Whilst there is some support for the influence of genes in the development of anxiety the strongest genetic predictor is more explicit for social anxiety disorder, panic disorder, and generalised anxiety disorder. All are linked to specific genes. It is important to note that whilst a genetic predisposition to anxiety is undoubted the extent of the relationship remains unclear. Twin studies have found a positive correlation with MZ twins and phobias with family studies supporting genetic vulnerability in the development of phobias.

Functional neuroimaging studies in humans have reported increased amygdala activation during experiences of fear thus triggering the SNS. The major pathways activated by stressors are the hypothalamic-pituitary-adrenal (HPA) axis and the autonomic nervous system (ANS). Several studies have concluded that people with anxiety disorders need less stimuli to activate their SNS leaving them susceptible to other chronic health conditions.

Several neurotransmitters have been found to play a role in the development of anxiety. Low levels of dopamine in the amygdala and high levels of serotonin have been linked to anxiety. Biological treatment for anxiety has historically involved the use of **SSRIs** (antidepressants) also used to treat depression but is now more commonly treated with the use of benzodiazepines which slow down the CNS and enhance the neurotransmitter GABA. Gaba is the primary inhibitory neurotransmitter known to counterbalance the action of the excitatory neurotransmitter glutamate. (Lydiard 2003).

According to Straube et al, 2006, the successful treatment of anxiety disorders requires the combination of medication balanced with cognitive behavioural therapy which leads to extinction of this hyperactivation of the amygdala. Like depression, CBT can be effectively applied to help identify, challenge, and replace unhelpful thinking that is contributing to anxiety. For example, someone who has a default of catastrophising will genuinely believe that the worst possible outcome will always be the one that occurs. CBT helps by teaching the individual to think that more realistically and focus on problem-solving and developing coping skills. Psychological explanations of anxiety align with the explanations of depression and include faulty schemas, classical and operant conditioning and social learning which are topics covered in the learning topic.

ANXIETY	ANXIETY DISORDERS
A normal reaction to stress of difficult times	Often come out of nowhere
Triggered by a specific stressor	Intense or disproportionate emotional response
Has a start and ending point	Ongoing and lasts weeks or months
Can be helpful or motivational	Interferes with day-to-day life
Lessens significantly or disappears away from stressful situations	Physical symptoms like sweating, trembling, light-headedness, racing heart
Relaxing often helps you feel better	Feels impossible to control or manage
A response to toxic situations	

Figure 2.5.5: The difference between normal anxiety experiences compared to anxiety disorders.

CHECKING FOR UNDERSTANDING

Complete the table below to identify a range of psychological and sociocultural causes of depression and anxiety.

	Psychological factors	Sociocultural factors
Depression		
Anxiety		

CASE STUDY. PUT YOURSELF IN THE ROLE OF A PSYCHOLOGIST. MIKE MAKES AN APPOINTMENT TO SEE YOU.

Mike is a 20-year-old who feels depressed and is experiencing a significant amount of stress about school, noting that he'll "probably flunk out." He spends much of his day in his dorm room playing video games and has a hard time identifying what, if anything, is enjoyable in a typical day. He rarely attends class and has avoided reaching out to his professors to try to salvage his grades this semester. Mike has always been a self-described shy person and has had a very small and cohesive group of friends from elementary through high school. Notably, his level of stress significantly amplified when he began college. When meeting new people, he has a hard time concentrating on the interaction because he is busy worrying about what they will think of him – he assumes they will find him "dumb," "boring," or a "loser." When he loses his concentration, he stutters, is at a loss for words, and starts to sweat, which only serves to make him feel more uneasy. After the interaction, he replays the conversation repeatedly, focusing on the "stupid" things he said. Similarly, he has a long-standing history of being uncomfortable with authority figures and has had a hard time raising his hand in class and approaching teachers. Since starting college, he has been isolating more, turning down invitations from his roommate to go eat or hang out, ignoring his cell phone when it rings, and habitually skipping class. His concerns about how others view him drive him to engage in these avoidance behaviours.

After conducting your assessment, you provide Mike with advice that you believe he has social anxiety disorder.
Discuss how CBT could be used as a psychological treatment for Mike's social anxiety.

Video. Living with mental illness. Lauren's story: https://tinyurl.com/5xzpj5by

TRIGGER WARNING; THIS VIDEO TALKS ABOUT DEPRESSION, ANXIETY AND FEELING SUICIDAL, HOWEVER, THERE IS A POSITIVE ENDING TO THE STORY which will help you to answer the following question.

Choose one biological risk factor and explain the role in Lauren developing depression.

With reference to the Biopsychosocial model, discuss the factors that enabled Lauren's recovery (discuss at least one factor from each component).

Systematic Desensitisation

Systematic Desensitisaion is a psychological intervention based on Classical Conditioning (a learning theory) and is explained in detail in Topic 5 on page 354. Have a read of the theory behind systematic desensitisation in Topic 5 and complete the activities that ask you to apply your knowledge to some scenarios. Once you have completed this background learning, return to this topic and complete the activity below.

HELPFUL ONLINE RESOURCES

Useful online resources:
For a full list of identified phobias visit:
https://tinyurl.com/e4p8sn8

Systematic Desensitisation storyboard Select a common phobia, or one from the list of unique phobias. Use this storyboard to illustrate how you might use systematic desensitisation to cure this phobia. Draw a diagram in the top box, and explain what is happening in the space below:

(Note: Systematic Desensitisation in the treatment of phobias is also covered in the Psychology of Learning topic -Topic 5, which means this is an examinable concept.)

COMMON PHOBIAS

- **acrophobia**, fear of heights
- **aerophobia**, fear of flying
- **arachnophobia**, fear of spiders
- **astraphobia**, fear of thunder and lightning
- **autophobia**, fear of being alone
- **claustrophobia**, fear of confined or crowded spaces
- **hemophobia**, fear of blood
- **hydrophobia,** fear of water
- **ophidiophobia**, fear of snakes
- **zoophobia**, fear of animals

SCHOOL ASSESSED TASK IDEAS

Produce a brochure that could be used by someone with a chosen specific phobia to understand: the nature of their condition; the biological, psychological and social factors categorised as risk and/or protective involved in the development and management of the condition; and the options for treatment/management of the condition.
Use a flowchart to illustrate how the process of systematic desensitisation can be used to treat a specific phobia; discuss why this management technique can be used for any example of specific phobia.
Select an example of a specific phobia and explain how the phobia may have developed, how it may affect an individual and their lifestyle and how it could be managed; discuss whether the selected phobia would be more debilitating at particular ages or for different cultural groups.

Ethical issues with treatments for anxiety, depression, and phobias Refer to page 492 in the SIS Chapter for a detailed explanation of ethical issues in Psychology.

Ethical issues

The World Health Organisation (WHO) estimates that 10% of world population is suffering from some psychiatric illness and 25% of people experience some psychiatric illness during their lifetime. Five out of ten leading causes of disability are due to mental illness, for example, depression, alcohol abuse, bipolar mood disorder, schizophrenia, and obsessive-compulsive disorder (OCD). (WHO 97). The growing numbers call for changes in the diagnosis and ethical treatment of mental illness.

Human rights translate into the ethics of psychiatric care that relate to respect for autonomy; the principle of non-maleficence, beneficence, and justice; confidentiality (and disclosure); informed consent and involuntary treatment. Adhering to all ethical principles can become challenging, particularly where an individual may not be considered *non compos mentis* which means that they are not fully in control of their mind. This becomes complicated when treatment for disorders is considered by the treating physicians to be the best and most effective for their condition taking the safety of the patient into consideration. Someone experiencing a psychotic breakdown due to severe depression may not be able to give consent for treatment; this also compromises the principle of voluntary treatment.
How can someone give consent if they are not of 'sound mind'?

Patient choice to **withdraw** can be compromised if the patient is non compos mentis or if they are minor and do not wish to continue in their treatment plan including taking medication or engaging with psychological interventions. The parent become responsible for the adequate care of the child under these circumstances and can insist that they engage in treatment.

Depression and anxiety are among the most common mental health disorders diagnosed. Given the prevalence, it is important to identify effective and ethical treatments based on empirical evidence. Medication and CBT tend to be the most supported treatments with exposure therapy for anxiety and ECT for depression raising ethical concerns around its effectiveness and safety.

All psychological treatments should follow the ethical principle of 'do no harm' (nonmaleficence). However, some treatments can be seen to have both beneficial outcomes alongside serious side effects, e.g., ECT has been known to alleviate the symptoms of severe depression, manic or psychotic symptoms and should only ever be used where all other treatment has failed or where the level of mental distress is life threatening. However, many patients report severe symptoms returning within 12 months of having the treatment whilst others commonly report loss of memory. It is important to note that individual differences play a key role in the impact of the treatment and benefits to the patient should outweigh the costs when the decision for ECT is being made.

Ethical concerns regarding exposure treatment for anxiety and phobias include fears of symptom exacerbation, high treatment dropout rates which leaves patients with untreated symptoms and potentially higher distress. Despite these concerns, research largely supports both the efficacy and safety of exposure therapy, except for in the use for PTSD.

CASE STUDY

Read this case study, and answer the multiple choice questions below.

A primary care physician notices that her 25-year-old patient appears more down, and a thorough evaluation and discussion with the patient confirms the diagnosis of major depressive disorder, moderate severity. The primary care physician discusses various treatment options, including CBT or a trial of an antidepressant medication. The patient prefers CBT but notes that she does not have the time to make therapy appointments. She adds, however, that she has seen some online advertisements for a smartphone app offering a CBT intervention. The promise of doing CBT from "anywhere, at any time," is appealing, and the patient asks if this is a good plan. The primary care physician has not heard of CBT apps before but cannot see a reason why the patient should not use them, so the primary care physician agrees to let the patient use the app instead of seeing a therapist.

Two months later, the patient does not show up to her appointment. The primary care physician calls the patient and, after several attempts, finally reaches her. The patient reports she is feeling worse and now has little energy or motivation to leave the house. She recalls downloading a CBT app but thinks she stopped using it after three days. A clinic appointment is made, and the patient is started on an antidepressant medication.

CHECKING FOR UNDERSTANDING

Q1. In originally respecting the patient's wish to pursue CBT instead of a medication, the primary care physician's decision was primarily governed by which of the following ethical principles?

A. Voluntary participation (Autonomy)
B. Compassion
C. Consent
D. Withdrawal
E. Do no harm (Nonmaleficence)

Q2, In agreeing with the patient that using a smartphone app, which did not have a clinical evidence base, was an acceptable substitute for treatment, the primary care physician may have compromised which of the following ethical principles?

A. Voluntary participation (Autonomy)
B. Compassion
C. Consent
D. Withdrawal
E. Do no harm (Nonmaleficence)

Q3. What should the primary care physician have done instead when the patient offered to pursue CBT through an app instead of seeing an individual therapist?

A. The physician should have insisted that the patient pursue CBT with an individual therapist.

B. The physician should have insisted that the patient choose medication instead of CBT.

C. The physician should have examined the app with the patient and decided on the basis of this user interaction alone whether it constituted appropriate treatment.

D. The physician should have examined and discussed the app with the patient, emphasizing her lack of clear clinical knowledge about mobile technology efficacy and privacy risks, and judged how using the app would fulfill the appropriate standard of care.

Answer to the question regarding gaining consent from someone who is not of sound mind.

Responsible family members can give consent for treatment but in the case where they are not able to provide consent the treating physicians and psychiatrist are able to make the decision without family or patient consent, however there are guidelines around this.

Q1, The answer is A. Both CBT and antidepressants have good efficacy and fall within the standard of care for moderate depression. The principle of autonomy supports accommodating patient preference while fulfilling the standard of care.

Q2, The answer is E. Although mobile technologies offer many promising new clinical tools, many such smartphone apps still lack strong clinical data, such as information on risks and benefits. In this case, the primary care physician had not heard of CBT apps and thus was unsure about their efficacy and safety. Similar to how medications should be prescribed, recommending treatments such as mobile apps without appropriate clinical knowledge can risk harm to patients.

Q3, The answer is D. The primary care physician is respecting patient autonomy by openly discussing a treatment alternative in which the patient has expressed interest, in the same way a physician would discuss an unknown herbal or supplemental remedy in response to a patient's inquiry. Because much is unknown about the clinical benefits, risks, safety, and privacy of most mobile apps, the primary care physician should raise these issues in an informed discussion with the patient prior to proceeding with any substitution. To fulfill the appropriate standard of care, the primary care physician should examine the app and judge whether use of the app aligns with treatment goals and expectations and, if so, how additional safeguards, such as increased communication with the patient between visits or increased frequency of visits, could protect against unforeseen consequences.

SCIENCE AS A HUMAN ENDEAVOUR: ELECTROCONVULSIVE THERAPY (ECT)

From its conception the use of **Electroconvulsive therapy (ECT)** has created Global controversy. Despite years of social, political, and legal attacks and lack of acceptance by the general public, over 1,000,000 worldwide receive ECT annually. There exists a wealth of research showing that when used as a treatment, where all other forms have failed, ECT has shown to be an effective treatment. Still many clinicians, patients and families continue to view the recommendation for and prospect of ECT with horror.

Three reasons are given for the aversion: 1) ECT is considered old-fashioned and politically incorrect; 2) it is forced on the patient; and 3) the memory disturbances are so severe and persistent that no rational human being would undergo this procedure, no matter how well-intended.

Choose one of the following questions:

- Discuss how the practice of ECT has changed over time.
- Discuss the effectiveness of electro- convulsive therapy (ECT) as a treatment for depression.

Potential resources

https://tinyurl.com/56wvf73w
https://tinyurl.com/huhz6et8
https://tinyurl.com/caevk4r5
https://tinyurl.com/5xzt23b9

2.6 RESILIENCE

"Resilience" refers to a person's mental ability to recover quickly from setbacks.

- Describe some of the protective factors that a resilient person could have.
- Differentiate between internal and external factors of resilience, giving examples of each.
- Describe how a person could learn to become more resilient.
- Describe some resilience programs (e.g. resilience training as a psychological intervention for dealing with stress that can lead to mental health).

2022 Subject Outline | Stage 2

Resilience

Resilience is often referred to as "the ability to bounce back from adversity". This definition implies that individuals use internal and external resources available to them (protective factors) to overcome difficulties (risk factors).

Resilience is the result of a dynamic interaction between a person's biology and their external experiences (National Scientific Council on the Developing Child, 2015). Resiliency is affected by the way the brain, immune system and genes respond to experiences during a person's development. This must be considered when trying to understand why some individuals have unexpectedly positive outcomes despite adversity. Such variations are because the brain circuitry interacts with the caregiving environment and social context. Biological differences may explain why some people are more sensitive to stressful experiences.

Figure 2.6.1: Components of resilience definition.

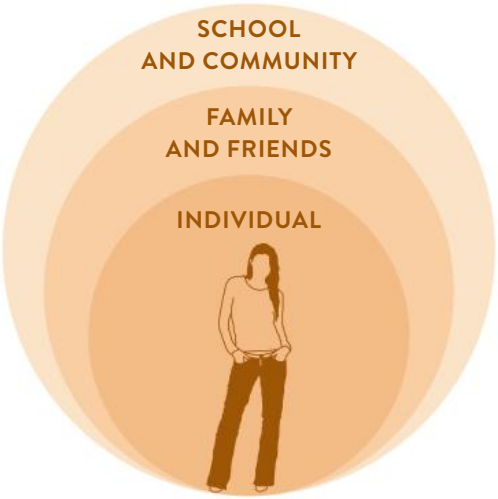
PROTECTIVE FACTORS

Protective factors are defined as characteristics of the child, family, and wider environment that reduce the negative effect of adversity. The APA outlines several factors that contribute to and act as markers of resilience, including:

- The capacity to make realistic plans and take steps to carry them out.
- A positive view of yourself and confidence in your strengths and abilities.
- Skills in communication and problem-solving.
- The capacity to manage strong feelings and impulses (APA).

Author and resilience expert Glenn Schiraldi (2017) provides even more examples and characteristics of resilient people, listing strengths, traits, and coping mechanisms that are highly correlated with resilience:

1. Sense of autonomy (having appropriate separation or independence from family dysfunction; being self-sufficient; being determined to be different—perhaps leaving an abusive home; being self-protecting; having goals to build a better life)
2. Calm under pressure (equanimity, the ability to regulate stress levels)
3. Rational thought process
4. Positive self-esteem
5. Optimism
6. Happiness and emotional intelligence
7. Meaning and purpose (believing your life matters)
8. Humour
9. Altruism (learned helpfulness), love, and compassion



WHY IS RESILIENCE IMPORTANT?

- Greater resilience leads to improved learning and academic achievement.
- Resilience is related to lower absences from work or school due to sickness.
- It contributes to reduced risk-taking behaviours including excessive drinking, smoking, and use of drugs.
- Those with greater resilience tend to be more involved in the community and/or family activities.
- Higher resilience is related to a lower rate of mortality and increased physical health and boots immune functioning.

LEARNING TO BECOME MORE RESILIENT

You can develop resilience by learning to train your attention on more-positive aspects of your life. You use purposeful, trained attention to decrease negative thoughts and bring greater focus on the most meaningful aspect of an experience.

Read more on building resilience here: **https://www.apa.org/topics/resilience**
Use the following resource to discuss how could parents help to enhance their child's resilience in the lead up to final Year 12 exams https://tinyurl.com/brykeeav

RESILIENCE TRAINING AS A PSYCHOLOGICAL INTERVENTION

Resilience training focuses on four areas, including:

1. Emotional
2. Cognitive and mental
3. Physical
4. Spiritual

Training in these areas can improve your resilience, enhance your quality of life, and decrease your stress and anxiety by teaching you to view life's inevitable challenges as opportunities.

The following TEDtalk provides valuable insight to moving through stress more effectively with enhanced resiliance.

From stress to resilience | Raphael Rose | TED talk: https://tinyurl.com/yefjz9u7

TIPS FOR BUILDING RESILIENCE:

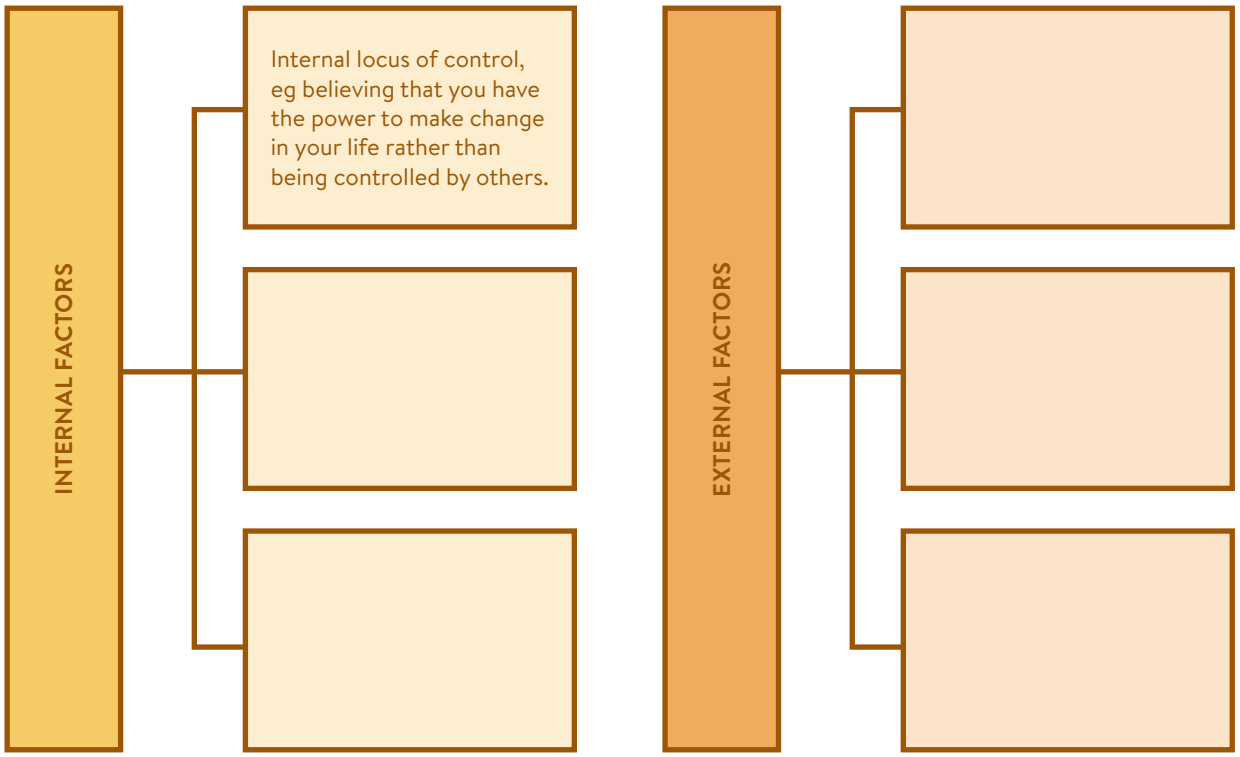
1. **Make connections**
   - Family, friends, others who can support
   - Civic groups, faith-based, local groups
2. **Avoid seeing crises as insurmountable problems**
   - Look beyond the present
3. **Accept that change is part of living**
   - Accept circumstances that cannot be changes
4. **Move toward your goals**
   - Realistic goals. Achievable goals
5. **Take decisive actions**
   - Do not detach from problems/stresses
6. **Look for opportunities for self-discovery**
   - Grow as a result of tragedy/hardships
7. **Nurture a positive view of yourself**
   - Trust your instincts
8. **Keep things in perspective**
   - Void blowing the event out of proportion
9. **Maintain a hopeful outlook**
   - Be optimistic
10. **Take care of yourself**
    - Engage in activities that you enjoy.
    - Exercise.

CHECKING FOR UNDERSTANDING

Outline the factors Raphael identifies that could explain resilience using the Biopsychosocial model?

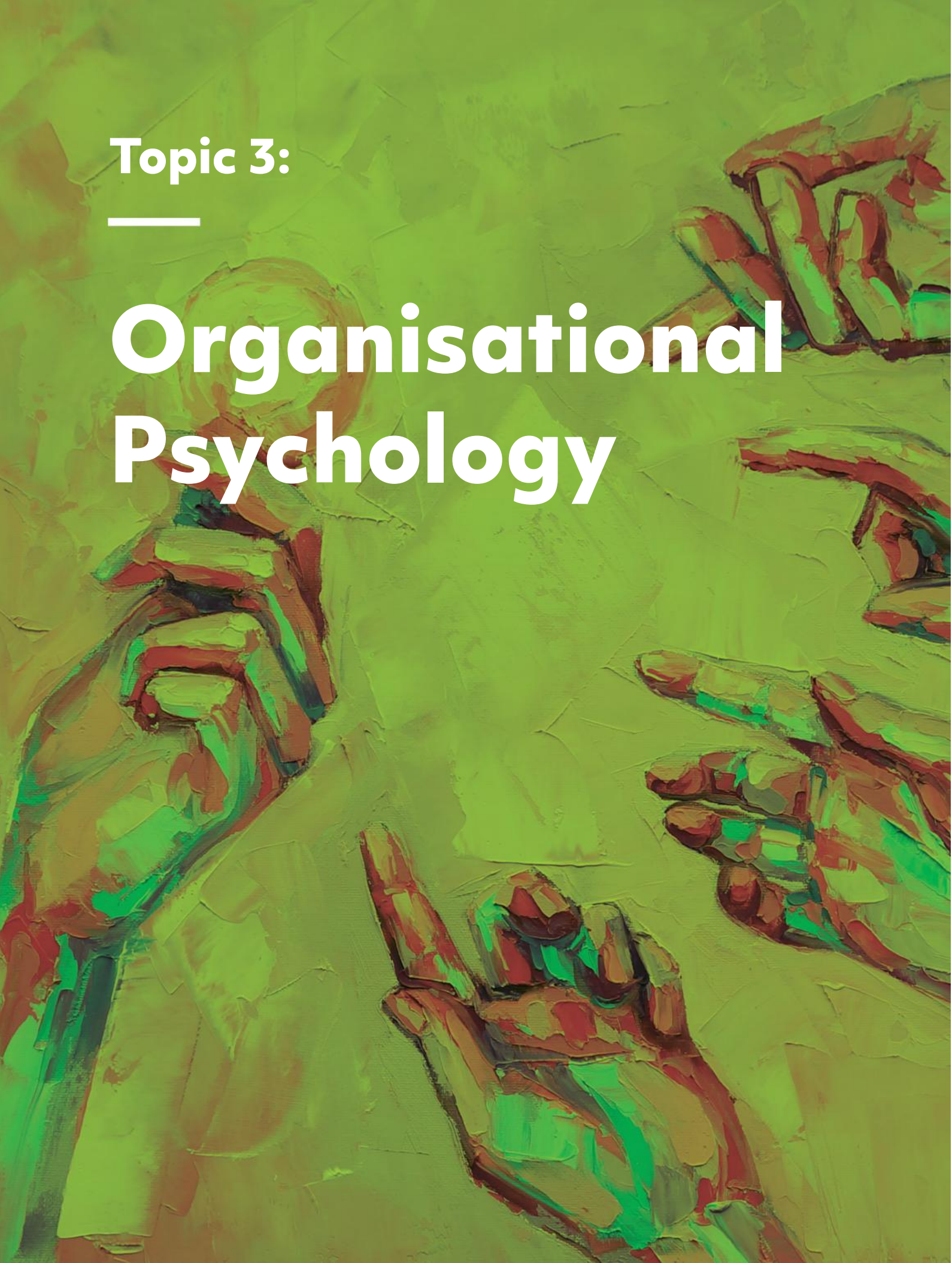
INTERNAL AND EXTERNAL FACTORS OF RESILIENCE

Complete the table below by identifying internal and external factors of resilience, giving examples of each.



CHECKING FOR UNDERSTANDING

Using your learning throughout this topic to explain how resilience training could be helpful as a targeted intervention for dealing with stress.



Topic 3:

Organisational Psychology

3.1 INTRODUCTION TO ORGANISATIONAL PSYCHOLOGY

- Define organisational psychology
- Describe the role of organisational psychology for organisations

There are different types of organisations including government, commercial and not for profit. Organisations also differ in the type of work they do.

- List different types of organisations
- Classify different organisations based on the work they do.

2022 Subject Outline | Stage 2

At 15 years old, I was excited to start my first part-time job as a waitress. Having the extra money in my pocket allowed me to go out with friends to cafes, shopping and even pay for my own concert tickets; it also brought a sense of responsibility and satisfaction that I no longer needed my parents to provide me with the money, or opportunity to access a range of activities that my small income provided. Little did I know that I had embarked on a journey that I would spend much of my adult life engaged with, employment.

According to The Australian Bureau of Statistics, the average Australian retirement age in Australia, is 55.4 years. This means we spend on average, 35 years of our life in employment. The age of retirement in Australia is young compared to the UK (66), USA (66) Canada (63) and ranging from 61-67 across Europe (**https://tinyurl.com/exrcxfey**). In a typical week, we spend more time with our colleagues than we do with our family and friends, therefore the workplace will play a crucial role in our day-to-day happiness and stress.

Given the significant length of time we spend in employment throughout our lifetime, organisational psychologists have conducted research around the impact of our job roles in terms of fulfillment, satisfaction and the contribution to our health and happiness. According to Baumeister, employment can help provide us with a sense of purpose, self-worth, and self-control (Kirby, 2021).

Organisational Psychology, often referred to as Industrial-Organisational Psychology (I-OP) is the scientific study of behaviour in the workplace. This involves the organisational performance alongside the performance and job satisfaction of its members. Huczynski & Buchanan (2007) state organisational behaviour is the study of structure, functioning and performance of organisations, and the behaviour of groups and individuals within them. I-OP *addresses the emotional and motivational side of work. It includes topics such as attitudes, fairness, motivation, stress, leadership, teams, and the broader aspects of organisational and work design. In some senses, it concentrates on the reactions of people to work and the action plans that develop as a result of those reactions.* (Jeffrey M. Conte, Frank J. Landy (2018)

Figure 3.1.1: Wilhelm Wundt.

The aim of the I-O psychologists is to enhance the organisations performance alongside employee satisfaction. Organisational behaviour has three areas of focus:

- **Individual level** (personality, attitudes and motivation)
- **Group level** (group composition, inter and intra group behaviour and conflict and leadership)
- **Organisational level** (culture structure, change and development)

Due to the changing nature of the workplace, organisational psychology is ever changing to adapt to the changing needs of both the organisation and employees, eg, introduction of advanced technologies, part time employment opportunities and other flexible arrangements and changes in industry.

HELPFUL ONLINE RESOURCES

Watch the video produced by the Australian Psychological Society showing the work and profession of I-OP.
https://tinyurl.com/7x9ff8bm

Role of organisational psychologists

Organisational psychologists have skills and knowledge in the following areas:

Recruitment and selection

- Development of selection criteria for jobs and identification of the best assessment tools.
- Assessment of knowledge, skills and abilities, and potential and personal fit for specific jobs using techniques such as assessment centres, psychological testing and behavioural interviewing.

Learning and development

- Analysis of training and development needs for individuals, teams and/or the whole organisation.
- Design and evaluation of skills and behavioural training programs.

Leadership and talent management

- Provision of advice and support to organisational leaders in relation to how they lead, engage and motivate their people.
- Establishment of a talent management framework, including succession planning, to identify and better manage critical roles, critical people, strengths and gaps.
- Introduction of programs to develop and retain top performers and next generation leaders.

Coaching, mentoring and career development

- Provision of individual assistance, coaching and mentoring to improve work performance.
- Design and implementation of career development processes for an organisation, along with individual career planning and vocational assessment.

Change management

- Design, implementation and evaluation of people related change management.
- Development of programs to help leaders better manage change and drive performance improvement in their part of the organisation e.g., handling change fatigue, building resilience.

Measuring employee opinions and other workplace research

- Development and analysis of surveys of employees or clients/customers.
- Research such as identifying which work behaviours predict future success.

Occupational health and safety

- Development of policy and programs in work safety, employee assistance, rehabilitation, stress management and health promotion

Performance management

- Design, implementation and evaluation of performance management systems that link in with business strategies.
- Development of employee incentive programs to drive desired behaviours and results.

Wellbeing, stress and work-life balance

- Development of programs to improve employee wellbeing, commitment and engagement.
- Development of policies and practices to enable better management of the work-home interface.

Organisational Psychology: Now and Then!
https://tinyurl.com/yf96c6kd

TEACHER NOTE: Create a shared document for student collaboration, e.g., Padlet, Google doc. Create a range of headings from the link above and allocate students to groups to make notes under their specific heading. When they have completed this task encourage students to read all the sections and then compose their own summary of key changes within the role of an organisational psychologist.

Types of Organisations

There are different types of organisations including government, commercial and not for profit. How each of these functions, is distinct from one another in terms of purpose funding and profits.

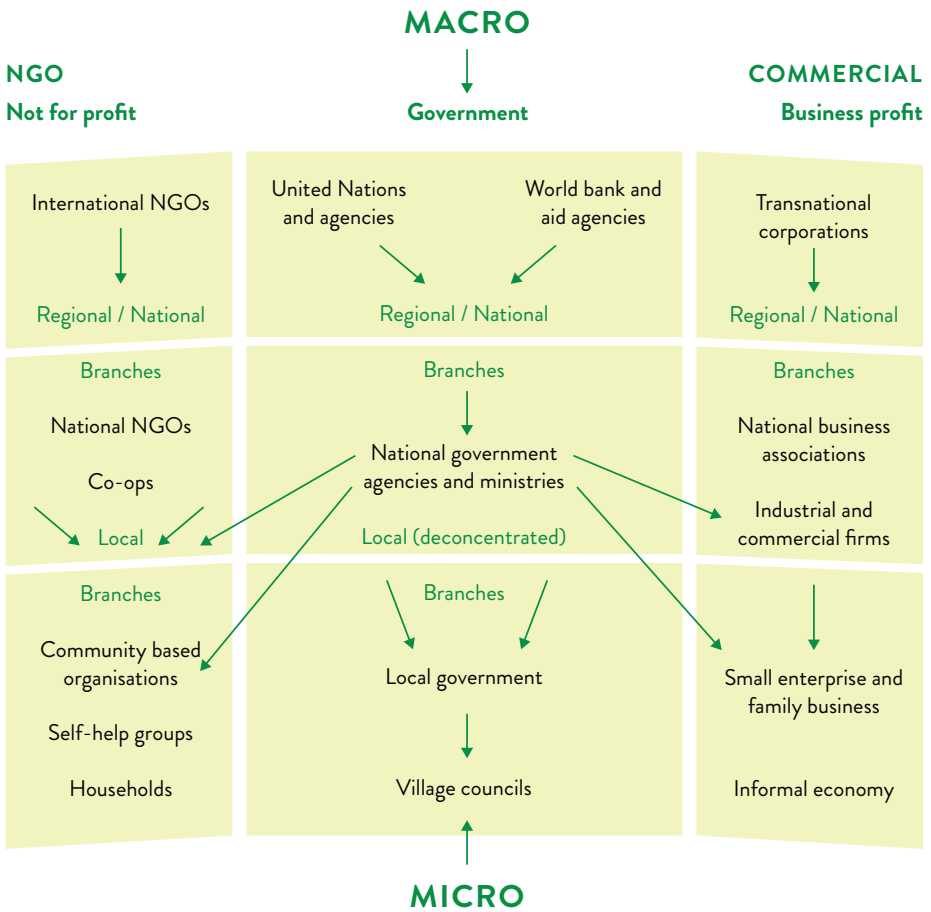


Figure 3.1.2: Government, Commercial and Not for Profit types of organisations.

Key Notes	Not for profit	Government	Commercial
Purpose			
Funding			
Profits			
Examples of organisations			

EXTENSION ACTIVITY

Consider what kind of key issues there might be at an individual, group and organisational level for each type of organisation.

Complete the following table. You can use resources provided by your teacher online searches or the following link: **https://tinyurl.com/w3s96aej**

- Individual: e.g. disability
- Group: facilitation
- Organisation: productivity

Significant changes in the workforce and environment have occurred since the industrial revolution and more recently with the technological revolution. It is therefore important to classify organisations based on the work they do to help track, monitor, and implement change where required.

Jones 1998 has classified organisations into five areas.

Primary or extractive	Agriculture and minerals
Secondary	Manufacturing and construction, e.g.motor cars
Tertiary or tangible economic services	Moving people, provision of goods and services
Quaternary or information processing	Banking, real estate
Quniary or domestic craft (unpaid) and quasi domestic services	Food and shelter in hotels, caring for children, gardening and cleaning

(Kirby, 2021)

Industrial changes in Australia correlate with changes that have occurred in other parts of the world throughout the last century. Noticeably a decline in agriculture and manufacturing (recent loss of Holden) yet a steady increase in transport, retail, particularly hospitality. In the 1980's, manufacturing was the biggest employer in Australia engaging 16.4% of the workforce. Today, less than 1 million people work in the sector, accounting for 6.4 per cent of jobs. (Australia ranks last in manufacturing self-sufficiency, but coronavirus may change that, 2021). The importance of monitoring these changes is to ensure there is continual development of theories of organisational behaviour to better predict and prepare for industrial changes.

HELPFUL ONLINE RESOURCES

Further reading: The decline of manufacturing in Australia here: https://tinyurl.com/p5f6a42u

Complete the following table by indicating the type of organisation your parent/caregiver or grandparent works for. Collect class data and rank the order from most to least common. Investigate whether there has there been an increase or decrease in types of employment over time?

Non-Government Organisation	Government	Commercial	Classification	Rank order

SCIENCE INQUIRY SKILLS

Use the space below to:
Represent the data gathered in the previous table using the most appropriate formatting, e.g. using graphs, table or charts.
Write a conclusion regarding the trends identified in Industrial growth and decline?

Interesting fact:

Lillian Gilbreth received her PhD in industrial psychology from Brown University in 1915. Gilbreth is the only person with a PhD in psychology to appear on a U.S. stamp! She is also referenced in the movie, *Cheaper by the dozen*, written by her children.

Conclusion

CHECKING FOR UNDERSTANDING

Identify the aim of Organisational Psychology.

Describe the role of organisational psychology for organisations.

Role 1:

Role 2:

Put a tick in the box to identify the type of organisations.

	Not for profit	Commercial	Government
Alzheimer's Australia			
Nike			
SA services			
Meals on wheels			
KFC			
ATO			

Identify the classification of the following professions.

Teacher	
Legal secretary	
Software developer	
Mechanic	

Outline one key issue at an individual, group and organisational level. (Choose 1 to discuss).

Issue:

Figure 3.1.3: Diversity and Inclusion: grounds for discrimination.

SCIENCE AS A HUMAN ENDEAVOUR: REAL WORLD APPLICATION

Over the last century we have seen a significant change in the diversity of employment and working conditions leading to the development, introduction, and implementation of theories in workplace practice. These changes in diversity and working conditions have reinforced the need for organisational psychology to assist with the changes both from an organisational perspective and its employees.

There are several areas in working life whereby change has occurred due to the interaction between Science and Society, including several legislative acts regarding the rights and responsibilities of organisations, employers and employees. These acts cover a range of areas such as discrimination on the grounds of age, sex, ethnicity, and gender identity (to name a few), bullying and harassment, safe working environment, physical and mental impairment disability, the list goes on. As employee needs and organisational requirements change so will the research from organisational psychologists to continue the support for refining and implementing workplace strategies. For example, prior to 2011, new fathers did not have access to parental leave unlike that of the mother who was able to access a range of benefits to support her stay at home followed by her return to work.

Figure 3.1.4: Demographic representation of the Australian population.

CRITICAL THINKING:

What would organisational psychologists need to consider when recommending changes in the workplace based on the details shown in the infographic?

For example: shift work, work location, flexible working hours, part/full time positions, increase of Aboriginal and Torres Strait Islander peoples and Culturally and Linguistically Diverse (CALD) communities in the workplace and training.

SCIENCE AS A HUMAN ENDEAVOUR

The man who saved Coca Cola

Use the following link to conduct further research and answer the following questions.
https://tinyurl.com/5cdkef9p

Background:

Aim of the research:

Evidence of Scientific Method:

Identify why this is an example of Science as a Human Endeavour.

HELPFUL ONLINE RESOURCES

Suggested sources for further Science as a Human Endeavour related readings. The changing nature of Organisations, work and the workplace:
https://tinyurl.com/85vpcukn

Geoscience Australia: Diversity and Inclusion Strategy 2019-2022:
https://tinyurl.com/3jkrdba2

Shortly after the success of his work on the Coca Cola case Hollingworth was bombarded with requests to consult on the following

- How to interview farmers
- The effect of perfume on emotions
- The hours of the day when advertising was most effective
- The correct height for work benches
- The best colour for a railroad to paint its boxcars
- The legibility of traffic signs
- The differences in buying habits of men and women
- The value of auditory versus visual channels for advertising
- The selection of clerks
- The legibility of typeface

(Conte and Landy, 2019)

3.2 MEASURING INDIVIDUAL, GROUP AND ORGANISATION PERFORMANCE

- **Explore some of the different measures that can be used to assess the performance of individuals, groups and organisations.**
  - **Individuals: (e.g. supervisor ratings, quantity and quality of work)**
  - **Groups: (e.g. sales, client feedback)**
  - **Organisations (e.g. profit, staff turnover).**
- **Describe the advantages and disadvantages of each measure.**

2022 Subject Outline | Stage 2

All throughout school your teachers have been assessing you, appraising you, allocating you grades as a measure of your success, and assessing your performance. If you were hoping that assessment, appraisal, measurement of how well you are doing your work ended when you finished school, you will be most disappointed to learn that people's performance is also measured in the workplace. Yes….even teachers!

So why is understanding performance important? Measuring performance enables an organisation enables it to:

- Analyse success and failure
- Maintain success
- Make improvements
- Make future plans
- Set performance targets to match individual, team and organisational goals.

Monitoring and assessing individual employee performance is also common practice for most organisations. This typically involves an evaluation of the employee's performance in line with the organisation's expectations and it can be used for a number of administrative and developmental purposes. It should be noted that performance appraisal can be used both positively, e.g., for rewarding performance with promotion or improving performance with coaching, or it can be used negatively, e.g., for disciplinary action, dismissal or downsizing". A performance appraisal system can be counterproductive if it seen by employees as overly negative in its use.

Figure 3.2.1: There are many different ways to measure an employee's performance at work.

Whilst many employees may find having their performance appraised a daunting prospect, its positive use can provide employees with feedback on how well they are doing, how to improve their performance and goals for potential pay increases and promotion. Regular evaluations can enhance communication between managers and employees by allowing them to work together to develop employee goals. If the employee has been engaged in the process of setting their goals, they are more likely to be motivated to achieve them. Individual goals should have a direct link to the overall organisational goals, so employees know how their work contributes to the entire company. The increasing use of teams in organisations has led to the development of work assessments applicable to measuring team performance. Such assessments measure what the team achieves in terms of its set goals but also how the team performs in achieving those goals."

The challenge arises in selecting a valid measurement tool that produces tangible data. However, to select a measurement, we need to understand what constitutes job performance.

Muchinsky (2016) put forward eight major criteria for assessing work performance in modern society: (Cited in Kirby 2016)

Given the dispersion of job requirements and roles within, and across organisations, characteristics measured, should directly correlate with the job requirements outlined in the job description. Kirby (2020) states that there are **three important characteristics of any work performance measure** as follows:

1. It must be **appropriate** (e.g. customer service in hospitality and retail organisations).

2. It must be **stable** (e.g. it must be clearly defined with the same ways of measuring it).

3. It must be **practical** (e.g. not be too complicated or too long to administer).

Measuring individual employee and team performance: Objective measures

Objective measures are those that can easily be observed and measured, for example, the number of days absent, number of sales, calls made to clients, tasks completed in a specific time scale. These types of measurements have several advantages such as limiting observer bias which increases the reliability of data gathered alongside the ease of collating the data.

It is no surprise that objective measures are generally more appealing to organisations than subjective measures. It is also easy to gather and quantify data directly related to several job-related performance criteria.

However, objective performance measures fail to consider situational variables and factors out of the employee's control such as such as locations with better sales opportunities that advantage those

Figure 3.2.2: Consider the advantages and disadvantages of being given an objective, numerical performance appraisal.

salespeople working there or the speed of a production line that controls individual output, or the relevant skills and knowledge of team members that affect its performance. An additional disadvantage in this method arises in the inability to measure criteria such as personal effort communication, and teamwork which cannot be captured by objective means due to the narrow and specific focus on task performance (Kirby 2016).

A relatively recent development of objective performance measures involves the introduction of electronic monitoring, e.g. many truck companies now have an onboard computer linked to the engine which can track speed and idle time. This technology sends supervisors alerts to inform them when the driver is behind schedule. What it fails to identify is possible situational factors, for example, if the driver is kept waiting at loading bays or caught up in traffic delays.

Conte et al note: ''*Workers generally dislike the fact that their performance can be "tracked" electronically because the tracking is most often used to identify errors in performance or violations of work rules rather than instances of outstanding performance*".

Objective electronic tracking measures can be counterproductive in terms of worker performance if they negatively affect perceptions of privacy rights and fairness.

Figure 3.2.3: Objective data is commonly available to employees and managers through online data analysis platforms such as PowerBi. Data can be viewed at multiple levels – organisational, group or individual.

Class discussion opportunity. Ethical consideration: Do tracking systems violate employee privacy?

CHECKING FOR UNDERSTANDING

Outline the advantages and disadvantages of using objective, data driven performance appraisal methods.

Performance appraisals and ratings: Subjective measures

Due to the difficulties associated with objective employee performance data, subjective rating scales are most commonly used to evaluate how well employees perform their jobs.

An advantage of subjective performance appraisal measures is that they can assess important aspects of work that are difficult to assess objectively, like quality of work and teamwork, and they can take into account contextual issues affecting performance like breakdowns in equipment, downturns in demand for services or loss of a key team member.

However, a major problem with subjective measures is rater bias which can be influenced by prejudice against an employee's age, gender or ethnicity. It may also be influenced by common tendencies to use rating scales inaccurately. For example, Cascio and Quinis (2011) identified three type of rater error; raters may vary in how lenient or severe they are, they may overuse the middle category thus rating all employees as "average", or they may rate an employee similarly on all aspects of their performance based on their overall view of their performance (this has been termed the halo effect). Accordingly, it has been found to be important to provide training to counteract these tendencies and although research has shown that training can improve accuracy (e.g. Sulsky and Day (1992) found that providing frames of reference in terms of examples of good, average and poor performance, improved accuracy), Kraiger and Quinis (2001) found that such training may not reduce all errors and bias and hence they recommend using multiple sources of information for assessment.

Figure 3.2.4: Performance Appraisals serve two purposes: administrative and growth and development.

STUDENT ACTIVITY

Consider the following biases that exist when people are conducting a performance appraisal. What could be the potential pitfalls and outcomes of a performance appraisal if the person conducting the appraisal possesses each of these biases?

Leniency-severity bias The tendency to give ratings that are either at the top end (leniency) or bottom end (severity)	**Central tendency or range restriction bias** The tendency to 'play it safe' and rate employees at the mid-point	**Halo effect** The tendency to rate an employee with a similar score based on their overall impression of the employee's performance (ie generally good, or generally bad)

CHECKING FOR UNDERSTANDING

Outline the advantages and disadvantages of using subjective rating systems for performance appraisal.

360 DEGREE AND UPWARD APPRAISAL

Each of the performance measurement strategies discussed above are examples of **downward appraisal** where a supervisor, or manager who is "higher" up in the organisation provides an appraisal of an employee's work. Managers are required to conduct these performance appraisals but they may not do them effectively because they may succumb to the biases discussed earlier leading to inaccurate assessments. When giving assessment feedback to employees they may also lack the skills to do this in a constructive way, indicating what the employee is doing well and how they could improve, but instead concentrating on any negative

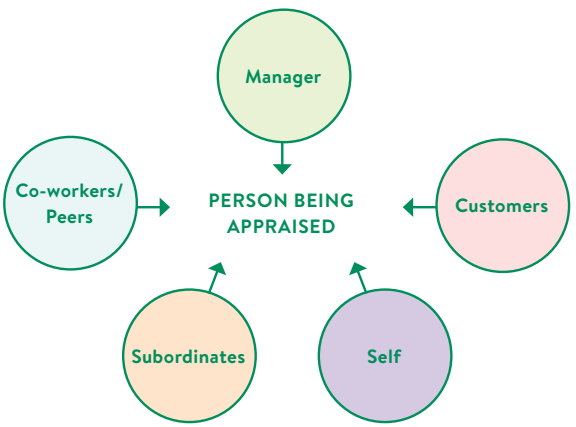


Figure 3.2.5: 360-degree feedback involves upward, downward and peer feedback.

aspects of the assessment. This can make the appraisal process a negative experience for both the employee and the manager conducting the appraisal. This can be counterproductive for both the employee' s performance and for the appraisal system.

In an effort to avoid bias by having one overarching perspective on the employee appraisal process, a more diverse method has been employed. The **360-feedback process** enables feedback to be gathered from a range of sources, including peers, customers and clients, suppliers, alongside the views of managers and can be applied to measure individual and group performance. This is particularly useful in jobs that focus heavily on person-to-person interaction, eg, teachers, customer services, and those who form an integral role within teams.

The application has changed since its conception with, for example, many employees being given the opportunity to nominate their preferred colleagues to engage with the feedback process. However, although the 360-feedback process can have advantages in terms of a more comprehensive assessment from multiple sources, that is more useful for rewarding and improving the employee's performance, it can also have disadvantages in being more complex and time consuming, still subject to rater bias and potentially disruptive of interpersonal relationships amongst those involved in the appraisal process. Some examples of items that might be completed by different assessors in a 360-degree feedback are shown in Figure 3.2.6.

PROS AND CONS OF 360-DEGREE APPRAISALS

PROS	CONS
Receiving information from numerous sources leads to a clearer overall picture of performance	Office politics can lead to raters supplying inaccurate ratings
Detailed feedback on performance from numerous sources raises awareness of strengths and weaknesses and how other people in the organisation view you	Involving more people in the appraisal process makes the process more complex and time consuming
Giving employees the opportunity to rate how they're managed gives them a voice which they're likely to view positively	This more complex appraisal process is more expensive than a simple downward assessment
The detailed information provided during the appraisal and the raised awareness of your own strengths and weaknesses can help positive behaviour change and lead to improved managerial effectiveness and leadership	Hearing criticism from your colleague's subordinates can be difficult and managers may not enjoy the process

BUSINESS ACUMEN

1. Stays current with the latest trends and advances in his/her industry or field.
2. Demonstrates a clear understanding of factors that impact our success as a business.
3. Is respected as a talented and knowledgeable person his/her area of responsibility.
4. Sets clear direction that aligns his/her team with the organisation's strategy.

DECISION MAKING

5. Makes decisions that reflect a clear understanding of what we do.
6. Considers multiple sources of information when making important decisions.
7. Makes decisions in a timely manner.
8. Demonstrates good judgement and common sense when making decisions.

PLANNING AND ORGANISATION

9. Creates short-term goals that fit within the long-term strategy of the organisation.
10. Breaks down larger projects into manageable tasks.
11. Uses his/her time effectively.
12. Keeps people focused on the organisation's key initiatives.
13. Describe this person's general strengths as a leader.
14. Describe specific things this person could do to be a more effective leader.

Figure 3.2.6: Example questions from a 360-degree feedback survey.

SCIENCE INQUIRY SKILLS

Outline why the reliability and validity may be compromised by gathering feedback during 360 feedback process.

..

..

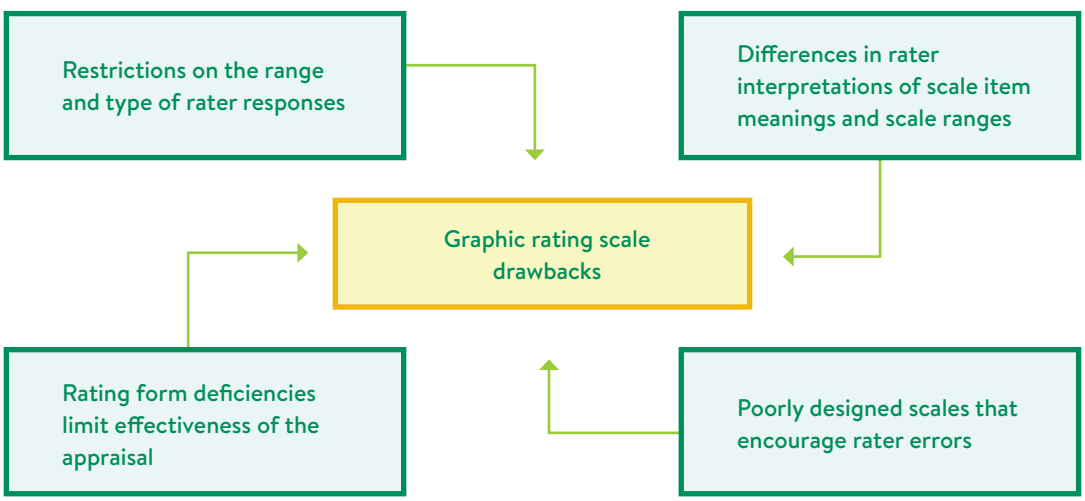
..

AN EXAMPLE OF POTENTIAL GENDER BIAS IN PERFORMANCE APPRAISAL

As women increasingly take on leadership roles in corporations, questions have arisen as to whether there are differences in leadership styles between men and women (Eagly, Johannesen-Schmidt, & van Engen, 2003). Eagly & Johnson (1990) conducted a meta-analysis to examine gender and leadership style. They found, to a slight but significant degree, that women tend to practice an interpersonal style of leadership and men practice a task-oriented style. (Cited Frank. Landy; Jeffrey, Conte 2016)

Group discussion. Question: Would this have any impact on the feedback process?

Subjective feedback, whether from one manager or supervisor or as part of a 360-appraisal using a range of assessors, often relies on graphic rating scales. These rating scales can assess a range of behaviours including, for example, in a 360 appraisal, client ratings of service experiences and interactions with the employee. However, rating scales need to be carefully designed to reduce potential rater biases and, in the case of 360 appraisals, different interpretations of their meaning by different raters.



For example, in a bid to minimise the subjectivity of each scale point, Smith and Kendall 1963, developed a **behaviourally anchored rating scale** (BARS). This was the first attempt to develop a rating scale composed of specific job dimensions and behaviours accompanied by a description of the behaviour and the attributed rating. These types of rating scales combined with training in their use with appropriate examples of each rating, can improve the accuracy of subjective performance assessments.

Behaviourally anchored ratings scales can also be used to assess not only what an employee does but what a potential employee would do; for example, as part of a job interview for a position as a Customer Service Representative. A similar Behaviour Observation Scale (BOS) can be used to assess how often an employee engages in particular behaviours such as observing safety regulations

Example. Please use the following scale to indicate how often the individual engages in, or could expect to engage in each behaviour:

0 = Never	3= 61–80% of the time
1= 1–40% of the time	4 = 81–90% of the time
2= 41–60% of the time	5= 91 + % of the time

THE CUSTOMER SERVICE REPRESENTATIVE

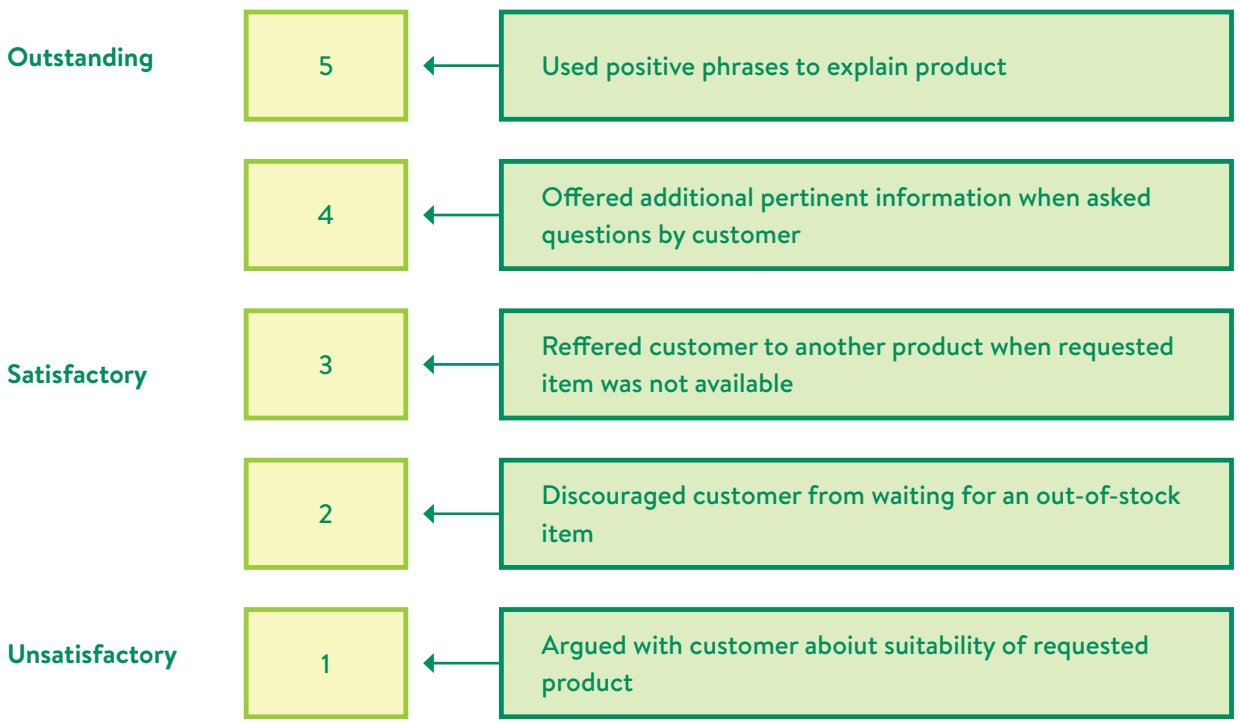


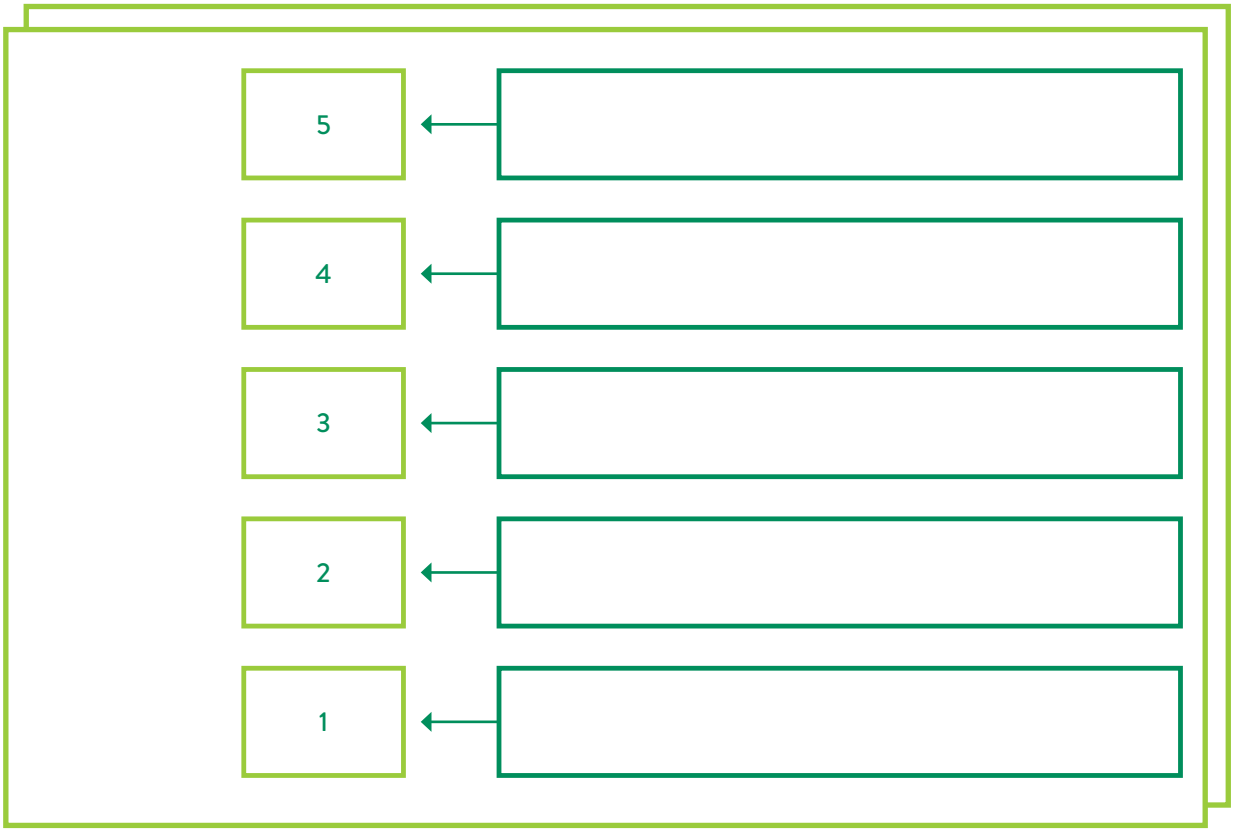
Figure 3.2.8: Behaviourally- Anchored Rating Scale for Customer Service Skills.

CHECKING FOR UNDERSTANDING

An exercise in the use of a BARS Scale

Choose a job role from the following, or you can choose your own. Create a BARS performance assessment.

- Waiter/waitress, taxi/uber driver, Emergency Response Team, teacher.



REAL WORLD APPLICATION OF ASSESSMENT IN THE WORKFORCE

Another way of improving subjective measures of job performance that was developed in the mid 1950s was the critical incident method. This was originally developed to better understand and improve on vague subjective reasons given by pilot instructors for passing or failing trainee pilots for the U.S. Air Force. Vague reasons for failing could include "lack of inherent flying ability" or "unsuitable temperament" which could vary markedly between instructors.

The critical incident method involves using observations and opinions of experts performing a job to identify specific critical behaviours for successful performance that can be scored positively or negatively, e.g., "wears safety equipment", "leaves machine running while it is unattended". These scores can be weighted to reflect their relative importance or frequency. Anchored rating scales can assist scoring by describing how the person would perform at each point on the scale of the incident.

Advantages of the critical incident method are that behaviourally developed scales for critical behaviours can be more informative and reliable than general opinions about a worker's performance. Disadvantages of the critical incident method are that it must be developed specifically for each job and for any change in the job, and an assessment of a worker's performance, if not based on direct observation, may depend on the assessor's memory of what they have observed most recently.

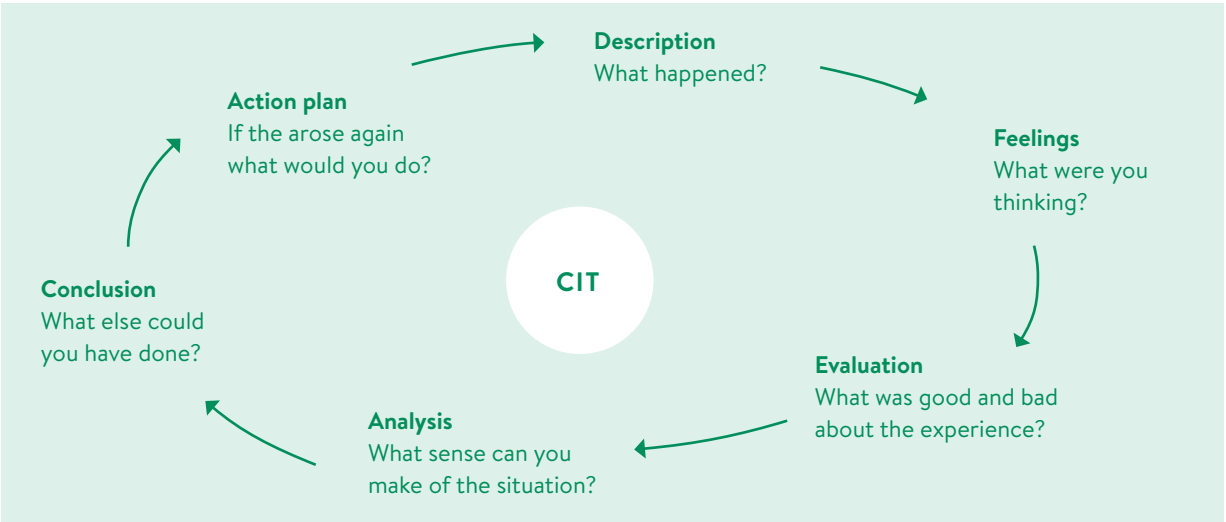


Figure 3.2.9: Model of the Critical Incident Method of analysing performance.

HELPFUL ONLINE RESOURCES

To read more on this research and methodology click the link below:
https://tinyurl.com/3p4uf2c7

ADVANTAGES

- Collection of Qualitative data. Data is collected from the respondent's perspective and in his or her own words.
- Method: Can be applied using questionnaires or interviews
- Identification of organisational problems alongside employee assessment perormance
- CIT deemphasizes the inclusion of general opinions about management and working procedures, instead focusing on specific incidents

DISADVANTAGES

- The method has a built-in bias towards incidents that happened recently, since these are easier to recall.
- The CIT will rely on events being remembered by users and will also require the accurate and truthful reporting of them. Since critical incidents often rely on memory, incidents may be imprecise or may even go unreported.

Measuring organisational performance

The survival of any organisation or business lies in their overall performance with regards a range of financial performance indicators, customer-related outcomes, innovation, and internal organisational processes (Potocnik, Singh and Darwish, 2016).

Organisational performance can be measured across a range of facets such as sales, customer service, profit, growth, innovation, team performance, work safety accidents and incidents, staff absenteeism and staff retention. Measures of organisational performance are subject to factors that affect their correct interpretation; for example, sales will depend on economic conditions, customer service will depend on anchored rating scales to identify specific problems related to customer service, innovation will depend on a culture that rewards innovation, team performance will depend on clearly set goals and appropriately skilled and trained team members, staff retention will require exit interviews to determine reasons for leaving the organisation (which might include lack of opportunities for promotion). Consideration of these factors affecting interpretation will be important for understanding successes and failures and for how to improve organisational performance.

Using the link below, complete the table to identify a range of objective and/or subjective methods for measuring organisational performance for the following facets: sales, customer service, work safety, absenteeism, staff retention. An example has been provided in the table below. You can also use the facets identified above.

HELPFUL ONLINE RESOURCES

Further reading on measuring organisational performance: https://tinyurl.com/buyym5jy

Facets	Objective measure	Subjective measure	Factors affecting interpretation
Sales	Innovation		Number of new products, services, processes.
Customer Service			
Work Safety			
Absenteeism			
Staff retention			

Identify the advantages and disadvantages of each measure identified.

ADVANTAGES

BARS:

Rating scales:

CIT:

DISADVANTAGES

BARS:

Rating scales:

CIT:

Performance Appraisal Summary

There are various measures used in organisations to measure individual employee and group performance in addition to assessing organisational performance. Industrial and organisational psychologists study, research, and implement ways to make work evaluations relevant, accurate, fair, legal and useful. Their positive use with appropriately trained assessors enables organisations to monitor key performance indicators (KPIs) for the organisation, for teams and individual employees and to identify ways in which their performance can be improved. They also work to decrease the subjectivity involved with performance ratings. Fairly evaluated work helps employees do their jobs better, improves the likelihood of people being in the right jobs for their talents, maintains fairness, and identifies company as well as individual training needs.

3.3 RIGHT PERSON FOR THE JOB AND RIGHT JOB FOR THE PERSON

- Explore theories of vocational interests such as Holland's theory
- Describe how Holland's Self-directed search measure can be used to provide vocational guidance
- Discuss some critical characteristics that might influence finding the right person for a job, including work qualifications, work experience, personality, interests, motivation, age, gender, ethnicity and language.
- Discuss how biased language in job descriptions may preclude finding the right person for a job.
- Explore assessments used in personnel selection
- Discuss the validity and reliability of these assessments and measures.
- Explore the advantages and disadvantages of internet testing and online interviewing
- Discuss ethical issues associated with their use.

2022 Subject Outline | Stage 2

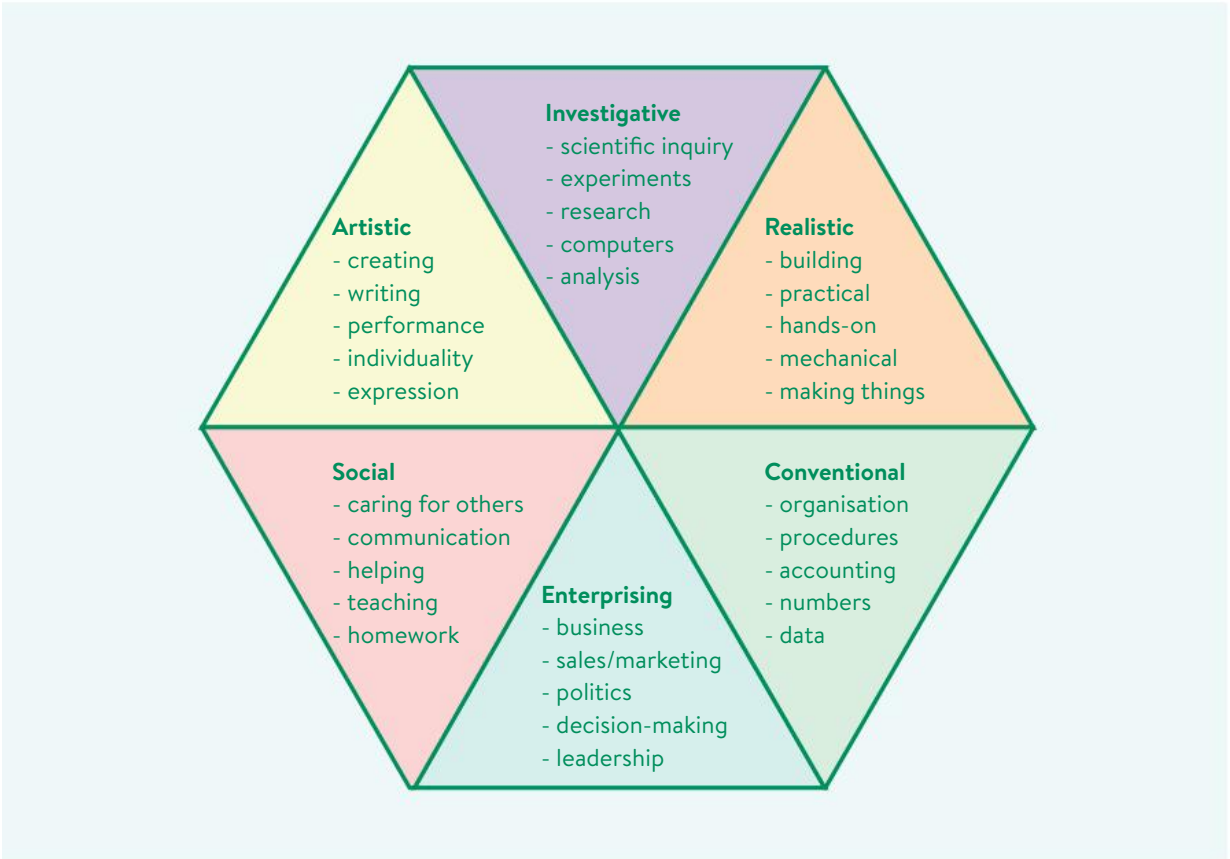
"In the last decade the workplace has undergone significant changes, maybe none more so than the last 12 months where we have seen the greatest transformation of the world of work in the shift to working from home. The workforce today is increasingly digital and mobile, requiring career pathways which are adaptable and fluid. With an average tenure of two years and nine months, it is projected that today's students will have 18 jobs across six careers in their lifetime." Education Future – Research and trends for the education sector: **https://educationfuture.com.au/**

Theories of vocational interest

John Holland's Theory of Vocational Choice is one of the most widely researched and used theories within the realm of career development. Holland claims that most people fall into one of six personality types (i.e. realistic, investigative, artistic, social, enterprising, and conventional), referred to as Holland Codes or RIASEC (Holland 1997).

Do people always ask you "What do you want to be when you grow up?" Do you know the answer? If not – that is 100% OK! Being a SACE student, you will be **very** familiar with the Stage 1 Personal Learning Plan subject which aimed to support you to investigate your personality type. You may have looked at identifying your interests, strengths and areas for development. It is likely you were asked to identify possible career options, perhaps do some work experience. All these activities have been aimed at helping you find the right job for you. Likewise, there is benefit in employers hiring the right people for the job. When job satisfaction is high, employee morale, engagement, motivation, work ethic, stickability, dedication, perseverance and a wide range of other attributes make for a win-win situation. Happy workers are productive workers so it is important that employees are supported to find jobs they will enjoy, and that employers are able to hire people well suited to their roles.

The thinking is that personality types fit into these same six categories, and that people thrive in a work environment that is matched to their personality.



Most people in reality are a combination of types; therefore it is important to consider occupations in more than one category. In Holland's hexagon model, the personality types that are closest to each other are more alike, than those further away.

A new report commissioned by the Foundation for Young Australians (FYA) **https://www.fya.org.au/** has found that rather than restricting ourselves down to one occupation, we should think broadly when planning our career paths. A new model developed within Australia that builds upon Hollands theory proposes **seven** job clusters (in comparison to Holland's **six** personality types). Published in a report titled **The new work mindset**,

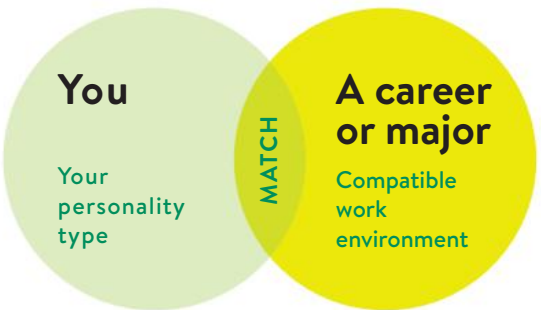


Figure 3.3.1: A match between personality and vocational interest leads to greater job satisfaction.

HELPFUL ONLINE RESOURCES

To read more about Holland's theory:
https://tinyurl.com/9csafpxh

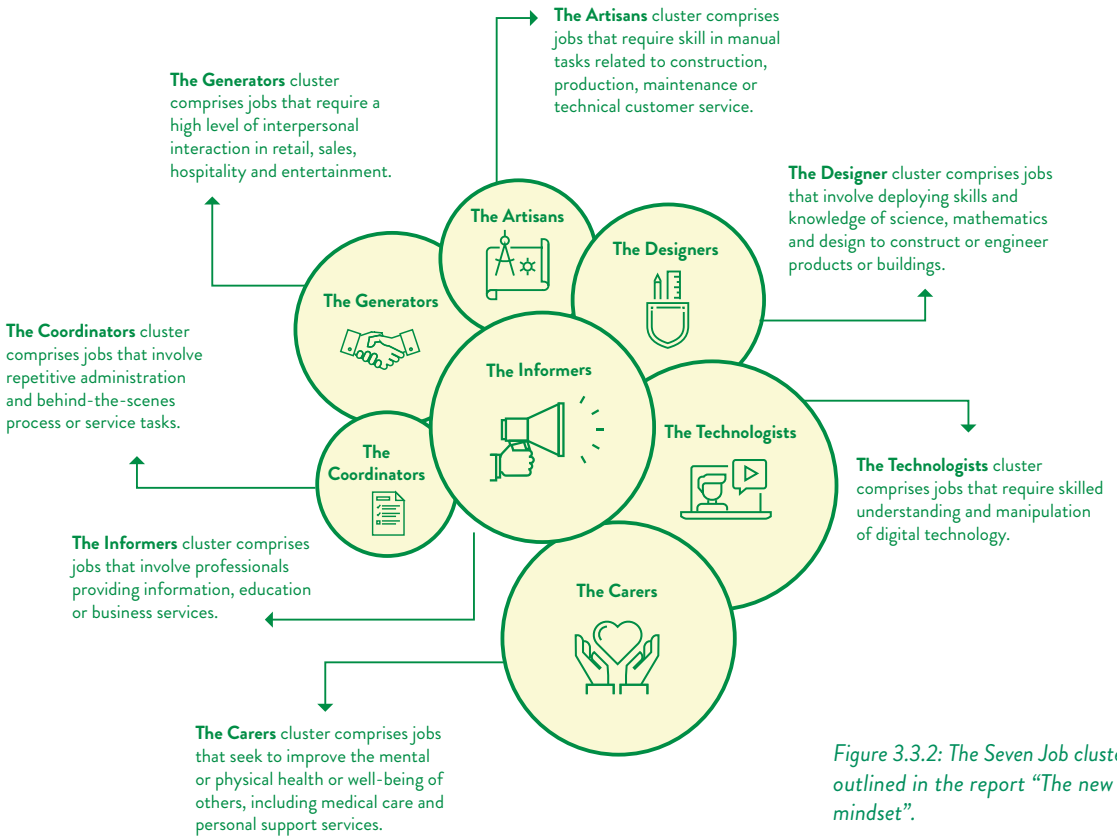


Figure 3.3.2: The Seven Job clusters as outlined in the report "The new work mindset".

CHECKING FOR UNDERSTANDING

Expand the table below by adding the information about the job types suited to both theories. Draw lines that connect Holland's personality types with the 7 job clusters. One example has been done for you. There may be more than one line between the categories.

Holland's 6 personality types		Foundation for Young Australia 7 Job clusters
Realistic		**The Carers** Improve health and wellbeing, including medical
Investigative		**The Technologists**
Social **Caring for others, communication, helping, teaching, teamwork**		**The Designers**
Artistic		**The Informers** Providing information, teaching, business services
Enterprising		**The Coordinators**
Conventional		**The Generators**
		The Artisans

Can you see similarities between the two theories? What is the major difference?

HELPFUL ONLINE RESOURCES

To hear about Australia's current career education strategy watch this short clip: National Career Education Strategy - Future Ready Career Education #knowtheanswer: https://tinyurl.com/uj24h34

Link to CICA YouTube Playlist for a range of work-related video for young people Career Industry Council of Australia - YouTube: https://tinyurl.com/cz4hr3m9

Holland's self-directed search method (and other tools)

There are numerous websites that provide online career testing. Choose one (or more) of the on-line tests suggested below and conduct your own career matching report. Many of these tools are based on Holland's Self-directed search measure.

Take these online tests to see the types of roles your personality type is matched to. Has this changed since year 10?

RIASEC TEST: https://tinyurl.com/c3w8rupe
(Note this is a paper-based test PDF)
Career Key: https://tinyurl.com/mmkdexuu
Open Source Psychometrics Project
https://tinyurl.com/ktr3cbr4
Truity: https://tinyurl.com/yzwa24h8
Online Personality Tests
https://tinyurl.com/ttkp95v9
UniSA My Career Match
https://tinyurl.com/msx3kzmr

To hear more about Holland's self-directed search tool: https://youtu.be/RjFcobniNns

CHECKING FOR UNDERSTANDING

Did your report align to what you believe about yourself and your current personal interests and future pathways?

To what extent do you think that these personality/career matching tools are useful for helping people identify potential career/job pathways?

Critically evaluate the test that you completed. Identify strengths, weakness, usefulness, credibility, validity and reliability of the test.

HYPOTHETICAL CASE STUDY:

Tala was extremely academic at high school. Tala socialised with a small group of likeminded friends who enjoyed studying and they pushed each other hard to get A grades for most of their subjects. She achieved a high ATAR of 97.5 at the end of Year 12 and was accepted into a Law Degree. She felt as though she should enter into a university degree that required a high ATAR score and considered both medicine and law before selecting law.

Tala has chosen to take a gap year having worked hard in a team environment doing physical hands-on work in a winery laboratory. Whilst she has found some part of the job enjoyable (she liked training others in her section in the new technologies being used), and she has made lots of friends, she has learned that she doesn't want to continue this type of work in the future. She is excited at the idea of going to university but has forgotten why she applied for Law. Having been out of school for 12 months, and no longer exposed to the interesting conversations in her Legal Studies class, she is questioning whether this is the right university course for her.

She is very artistic, creative, and has always been a dancer. She didn't pursue these subjects in year 12 as there was no space due to her more academic choices aimed at achieving a high ATAR. She blurted out the other day to her mum that she might want to go into teaching, or event coordination where she can work with people, and be creative at the same time.

Analyse this case study by identifying Tala's dilemmas. What were some of the key reasons that Tala enrolled in Law in the first place?

How might knowledge of the different career theories (Hollands personality theory, or the Job Clusters) help analyse Tala's dilemma?

How might an online self-assessment help Tala identify an area of interest?

Refer to the document "The New Work Mindset". The question below will require some research before you are able to respond below. https://tinyurl.com/24ttjn4u

Job growth (2010-15)

7.6%

Affected by automation

36%

STRONG

Policy analysts
Statisticians
Physicists
Gallery or museum curators
Economists
Laboratory managers
Human resource advisers
OH&S advisers
Financial brokers
Solicitors
Technical writers
Actuaries
Detectives
Organisational psychologists
Market research analysts
Journalists
Primary and secondary school teachers

Figure 3.3.3: Job Growth data and the extent to which "The Informers" job cluster is impacted by automation in the future.

Consider the job prospects identified on page 21. Keeping Tala's original plan to study law in mind, her work during her gap year, and some of her identified interests – what advice can you offer Tala about the transferability of skills within "The Informers" work cluster?

Finding the right person for a job

Finding the right person for a job is important for the performance of an organisation and this is called personnel selection. Today a range of assessments are used in the selection of personnel recruitment including psychometric tests that assess intelligence, psychometric testing, physical dexterity, aptitude and personality. Other strategies for selecting the right people for the job include referee checks, structured or semi-structured interviews, viewing work samples, all of which have different levels of reliability and validity.

The importance of hiring the right people is a topic of significant interest to managers and organisational psychologists. Hiring the right person can result in massive benefits for employees, teams, the business as a whole, customers, morale, profits.

CHECKING FOR UNDERSTANDING

Brainstorm how different things could go well or wrong depending on the person being hired.

	If the right person is hired	If the wrong person is hired
Staff morale		
Business profits		
Business culture		
Productivity		
Customer relationships		
Targets being met		

CRITICAL CHARACTERISTICS OF THE RIGHT PERSON FOR THE JOB

One of the most important steps in hiring someone new is writing the best person specification. A person specification is a description of the competencies or characteristics (skills, abilities and qualities) you would like candidates to have. This is like a "wish list" of the perfect employee that fits the needs of your organisation.

Things to consider:

- **Work qualifications:** What type of qualifications does the person need? Is this essential or desirable?
- **Work experience:** Do you want someone with many years' experience in a similar role, or are you happy to train someone to do the job if they have the right qualifications? This might be a time and money consideration.
- **Personality:** Does the person need to "fit" a particular personality type to be successful in this role? How do you test, measure or assess personality throughout the recruitment process?
- **Motivation:** How do you find out about a person's motivation through the recruitment process? Is motivation important to this role?
- **Age, gender, ethnicity, language:** Are any of these personal characteristics going to influence your decision making? Do you know the laws about discrimination in the workplace? How do you make sure that you are hiring the right person, without simply looking for someone with the right personal characteristics for your organisation?

DIVERSITY AND INCLUSION IN JOB DESCRIPTIONS

Biased language in job descriptions may preclude finding the right person for a job and may be discriminatory.

Explicit bias includes words that intend to include or exclude people from being able to apply for a role. Job descriptions that are racist, ageist, gender biased or discriminate based on disability risk discrimination laws but may mean that good people don't apply for jobs that they are quite capable of doing.

Implicit bias includes examples of unconscious bias that we have talked about throughout this topic and are explored again in Topic 4.4 page 308 when we look at prejudice. Unconscious bias includes the **Halo effect** (the tendency for an impression created in one area to influence opinion in another area, **Attribution bias** (the tendency to have different rationale for your own behaviour versus that of others, and **Affinity Bias** (the unconscious bias to get along with others who are like us).

CHECKING FOR UNDERSTANDING

What is wrong with these job descriptions?

Job Description	What is wrong? Who might this discriminate against?
Must speak good English	
Seeking recent university graduate	
Must have 3-5 years' experience	
Must be strong	
Waitress	
Willing to work outside the standard 9-5 schedule, including early mornings, evenings, and weekends as required by tight project deadlines.	
Assistant to the Chairman	
Seeking someone with quality workmanship	

Discuss bias in the recruitment process. Explore at least two dilemmas employers face in ensuring that the right people end up in the role, balanced with the moral, legal and ethical issues associated with prejudice and discrimination. In your opinion, do good people get overlooked for jobs?

Discuss which characteristics would be most important for an employer to consider when selecting the right person for a job and how these might have changed over time and how they might change in the future.

Recruitment strategies

ASSESSMENT

The introduction of testing applicant suitability in the workforce occurred at the start of World War I. Robert Yerkes and Arthur Otis developed group tests of intelligence to develop mental tests to determine suitability of soldiers to specific areas within the army at the start of World War I e.g., infantry, officers. In order to facilitate group testing at that time, Arthur Otis developed the multiple-choice question which has become a standard feature of group tests, Soon after the war, private industry began to engage in intelligence testing to help them identify suitable candidates for employment. Personality and Cognitive testing became common experiences for applicants, which raised controversy later regarding their validity due to assuming that they were appropriate (that is, they had what is referred to "face validity") without checking that they predicted work performance (referred to as predictive validity). Some personality and ability tests with apparent face validity were found not to have predictive validity.

PSYCHOMETRIC TESTING AND INTERNET TESTING

A psychometric test measures psychological attributes and includes assessment of knowledge, ability, intelligence and personality. Organisations commonly use psychometric testing in the recruitment process. It is important that prospective employers inform candidates about the purpose of the test, and what they are going to do with the results for ethical reasons, but also to help people act and respond more favourably to the test so that a true picture is able to be assessed.

Examples of online personality tests are explored several times throughout this course. Consider revisiting Topic 1.4 page 44 where we looked at the assessment of personality traits. In this Topic 3.6 page 227 further examples of personality tests are provided for you to try yourself.

PHYSICAL TESTING

Physical ability tests are used in certain roles that require physical strength, stamina and agility. This is logical and defensible to predict performance and reduce risk of injury. Physical tests are not intended to discriminate rather ensure the right people are hired for the job. Consider the physical requirements for firefighters.

Stairway climb: Candidate wears fire-protective clothing and air tank and carries seven pieces of equipment up three flights of stairs, one piece at a time. Each piece of equipment weighs between 25 and 55 pounds.

Hose pull: Candidate wears air tank, stands in one spot, and pulls 50 feet of fire hose filled with water using a hand-over-hand technique.

Ladder pull: Candidate wears air tank and pulls a 16-foot ladder from the ladder bed of a fire truck, places it on the ground, picks it up and replaces it in the ladder bed.

Dummy drag: Candidate drags a 125-pound sandbag around a serpentine course of 40 feet. The candidate must keep one knee in contact with the ground and may not lift or carry the sand bag but must drag it.

Blind crawl: Candidate wears fire-protective clothing and an air tank. After putting on a blackened face mask, the candidate must crawl through a plywood maze that has several turns in it. In addition, there are sandbags located strategically throughout the maze. The maze is approximately 40 feet in length.

Pike pole: Candidate wears an air tank and alternately pulls and pushes a 75-pound weight attached to a pole hanging from a frame. The candidate must complete as many repetitions as possible in a 4-minute period. A repetition is defined as one push and two pulls.

Fan hang: Candidate wears fire-protective clothing and an air tank and lifts a 50-pound fan from ground level, hanging on a standard door frame.

Figure 3.3.4: Physical ability tests for firefighters.

WORK SAMPLES

Some employers may choose to bring potential candidates into a practical situation and complete work samples. Candidates are asked to do a piece of work similar to what they will be doing in the job. Some schools require a teacher to come in and teach a lesson or prepare an assessment task as part of the selection process. In other work scenarios a person may be asked to analyse data and make suggestions, complete a psychomotor test such as a hands-on skill – driving a tractor, demonstrating use of a piece of machinery, word

Figure 3.3.5: Portfolios are used to show quality and range of work.

processing so that the employer can assess their ability to work quickly and accurately to complete a required work task. In careers such as the Arts, graphic art, photography candidates may be asked to submit a portfolio of their previous work

INTERVIEWS

Interviews are one of the most popular selection methods as they give the employer an opportunity to meet applicants face to face. People believe that they are a good judge of character, and we know from our learning about impression managemen tin Topic 4.5 (page 324) that people make judgements often in the first minute of meeting someone. Interviews however can also be unreliable as interviewees may be dishonest and lie about their qualifications, previous experience or interest in the job, or they may behave differently under the stress of an interview compared to how they behave when they are actually working. In an interview people have the opportunity to 'stretch' the truth or may inadvertently play down their strengths and not present themselves in the best possible way.

Figure 3.3.6: Interviews allow employers and employees to meet face to face.

Most people think they are a good judge of character and accordingly many people think that they can conduct valid interviews without much preparation or training. However, the research evidence strongly indicates that for interviews to be a valid form of assessment; that is, provide useful information that is predictive of job performance, interviews need to have a structured list of questions based on critical aspects of the and interviewers need to be trained to minimise natural biases that many people have based on age, gender or ethnicity as well as tendencies to judge people on the basis of their appearance and superficial aspects of their presentation, like agreeing with the interviewer. Evidence suggests that untrained interviewers tend to make up their mind about an interviewee in the first few minutes and spend the rest of the interview confirming their first impressions, whether positive or negative.

ONLINE INTERVIEWS

Nowadays, it's not unusual for job interviews to occur online. There are many reasons employers opt to conduct interviews online. For a while, COVID-19 made them necessary. In fact, most organisations (86%) conducted online interviews during the pandemic. But even in ordinary times, an online interview saves employers money because they don't have to set aside time for candidates to travel to the office. Since the technology for video chats is now mainstream, this method is simple and effective.

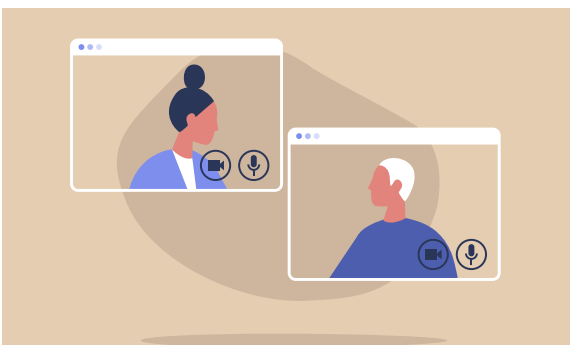


Figure 3.3.7: Job seekers benefit too: Online interviews save on travel time and can be less stressful than interviewing in person.

REFERENCES

Everyone uses references in job selection – but are they valid and reliable? The answering is probably not surprising – no they aren't. There are three main reasons why references aren't particularly helpful.

Figure 3.3.8: Consider the following concerns about the validity and reliability of a reference.

Referee honesty: If a current employer wants to keep a good employee, will they tell the truth so that the employee leaves, or will they play down their strengths, so they don't win the job, and stay with the company? The opposite is also true. If an employer wants a person to leave – they might provide a good referee statement so they can simply move the employee on.

Selective referees: Most people select referees whom they know will provide a positive referee statement for them. Information is likely to be skewed in your favour if the person providing the referee statement is a good friend or colleague and is someone who is on their side and wants them to win the new job.

The right referee questions: If the employer doesn't ask the right questions, then pertinent information about the candidates work ethic, personality clashes, time management skills or teamwork might not be obtained. It us up to the employer to ask the right questions to elicit the truth about their prospective employees. This take skills, training, preparation and careful consideration of the information they are seeking. The only references that are useful are those that are confidential; that is, when the information provided will not be disclosed to the candidate. Confidential references can be particularly useful if they provide negative information which might need to be clarified by a phone call; e.g., if the reference states that the candidate can at times be difficult to work with

BIOGRAPHICAL INFORMATION

Candidates for a job are usually asked to fill out an application form providing information about themselves including, in particular, their qualifications and work experience. A well-designed application form asking for critical information can be one of the most valid predictors of work performance, but it is important to check the information provided as people can lie about their qualifications and work experience. Checking might involve contacting their university to see if they did obtain a particular degree or contacting a previous employer to check that they were involved in particular kinds of work. Checking is also important because it is possible for a candidate to steal another person's identity by applying for a job using their name, qualifications and work experience.

ETHICAL ISSUES

Important ethical issues arise concerning the use by recruitment companies of information obtained about a candidate from social media and this can be information from many years previous to a candidate's application. A candidate might not know what information was obtained about them that resulted in their not being hired. When asked by young school children about how to become president, Obama warned them about what they put on social media because it could be used against them.

Continue to revise the concepts of **validity** and **reliability** in the SIS chapter page 482, then consider how these concepts apply to the recruitment strategies.

CHECKING FOR UNDERSTANDING

Outline the advantages and disadvantages of internet testing and online interviewing

Discuss ethical issues associated with the use of internet testing and online interviewing

Critically evaluate the following recruitment strategies by analysing the usefulness, validity and reliability of each of the assessment types and measures.

	Validity	Reliability	Usefulness
Psychometric/ Internet testing			
Physical testing			
Work samples			
Interviews			
Online interviews			
References			
Biographical information			

If you were an employer which types of assessment for personnel selection do you think are the most valid? Justify your response by comparing your response to current research.

Describe factors that might affect the validity of interviewing as an assessment (e.g. the halo effect) and provide suggestions for how you think interviewing as a personnel selection strategy could be improved.

SCIENCE INQUIRY SKILLS: DECONSTRUCT AND DESIGN TASK

Design a research investigation on the topic of the social media in the recruitment process.

Useful Resources to get started

In addition to the article and infographic provided on the following articles might provide a starting point to get you thinking about the direction your research might take.

https://tinyurl.com/kj4pj5s

https://tinyurl.com/c9m24vu5

https://tinyurl.com/v54jvyzw

See previous chapters for the Deconstruct and Design template to assist you.

SCHOOL ASSESSED TASK (SAT) IDEA:

1. Read the article below. Using information from Topic 3 and/or Topic 4 of this course prepare a debate expressing two sides of an argument about the use of social media in the recruiting process.

2. Read the article below. Using information from Topic 3 and/or Topic 1 of this course discuss how social media can be used to assess personality.

ARTICLE: SOCIAL MEDIA AND ORGANISATIONAL PSYCHOLOGY: ASSESSING PERSONALITY VIA FACEBOOK

What can you tell about someone from their Facebook page? Some people are quite open about themselves online, sharing their political views, their opinions on recent news topics, details about their family events and even what they may have eaten for dinner. Others are more private, perhaps using Facebook as a means to know what is going on with others rather than post anything about themselves. From status updates, somebody may appear easily riled, whereas /, another person may seem to be consistently positive about the world and its events. Indeed, it would seem that you may be able to discover one's personality from how they present themselves on Facebook.

This is indeed what research has discovered. Research have found that the number of friends people have, how often they post, and what the post about are related to their self-reported personality. For example, various studies have shown that they number of friends and how frequently they post status updates is positively related to extraversion. Further evidence has suggested that individuals high on narcissism and psychopathy tend to post updates that are more negative (vs. positive) in nature. Furthermore, individuals who are higher on openness to experience tend to have more friends of the opposite sex. Researchers have even discovered some differences between individuals who use Facebook versus those who choose not to use Facebook.

It would seem that individuals can portray themselves in any way they wish online. The ability to invent and reinvent one's own image online is extraordinarily easy. Individuals can describe themselves in flattering terms on dating sites, highlight certain skills (whether true or not) on LinkedIn for employers to see, or portray their lives as more exciting on Facebook. Nevertheless, it may be that regardless of how you think you're presenting yourself, the number of posts and content of them may limit your ability to fake your personality. Some of the research in this area, for example, has looked beyond the specific things said in status updates and instead looked at the structure of the sentences to reveal differences in personality. Thus whereas there are some clear issues that must be considered when using information obtained from social media sites when hiring employees (such as invasion of privacy issues which may impact how applicants view an organisation), there is reason to believe that Facebook and other social networking sites may be one avenue for obtaining indirect information on an individual's personality (Muchinksky, p116)

3.4 MOTIVATION

- Compare and contrast two motivational theories such as Maslow's and Alderfer's hierarchies of needs, Herzberg's two factor theory, Adam's equity theory, Vroom's expectancy theory, Locke's goal setting theory.
- Explore Hackman and Oldham's job design theory as a measure of motivation.

2022 Subject Outline | Stage 2

CASE STUDY: WHAT MAKES A GOOD JOB?

Filippa works as a Nurse at a large city hospital with a busy emergency department. She is primarily based in emergency unit but often works in surgery alongside some of the hospital's most talented surgeons. Her job involves many different activities and each day brings something new. She heads up a small team of other nurses in the emergency department, and has some responsibility for rostering, as well as monitoring the wellbeing of her team in what can be a very stressful job. She is responsible for keeping the nursing station a functional, tidy and welcoming workplace for her colleagues, other team members as well as members of the public.

Filippa works long hours, including night shift, for a moderate salary, and has her contract renewed every year. She doesn't feel a lot of job security and knows at any time she could be expected to take a contract in a different section of the hospital. Despite this, she experiences a high level of motivation at work.

What is motivation?

Motivation can be defined as those forces determining the direction, intensity and persistence of behaviour. It is what causes you to act, whether it is getting a glass of water to reduce thirst or reading a book to gain knowledge or going to work to earn money. **Motivation** is a critical factor influencing decision making, behaviour and performance in the workplace.

The study of motivation has incorporated a wide range of different approaches. It should be noted that all theories provide useful insights into human motivation, and many of the theories overlap. Despite the limitation of an individual theory, understanding multiple theories helps leaders and managers to consider the motivations of their employees, customers and clients.

Figure 3.4.1: What is motivation?

Motivational Theories

Maslow's Hierarchy of Needs (1943)
This topic links to our learning from Topic 1.2 about Humanistic theories of Personality. For more information refer to page 17.

One of the best-known models of human motivation is Abraham Maslow's Hierarchy of Needs. You will recall learning about this theory in Topic 1. The hierarchical nature of this model reflects the basic assumption that the strongest motivational drives come from needing to meet the lowest levels.

Only when the most basic needs are met can the more sophisticated motivational drives play a role.

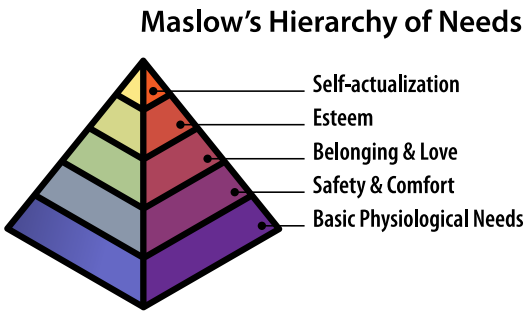


Figure 3.4.2: Maslow's Hierarchy of Needs.

APPLYING MASLOW'S HIERARCHY OF NEEDS TO THE WORKPLACE

Depending on where a person is having their needs met will determine the motivation for them to come to work. Consider your own first part time job – what was it that motivated you to go to work? There is a good chance you have a job that is providing your basic needs such as pay, and food in the breaktimes. Having your first job in a supermarket, or fast-food restaurant may provide short lived self-esteem, however, the likelihood that this role will continue to sustain your self-esteem and self-actualisation needs in the long term is not high.

Mark McCrindle and Ashely Fell in their book "Work Wellbeing" talk about how Maslow's hierarchy can be applied to any workplace. In the context of work, *survival and security* needs are components such as adequate remuneration, employment conditions, superannuation, worker entitlements, role description, tenure and job security. The *social* needs include opportunities for collaboration, social events, co-working spaces and team building. The *self-actualisation* needs are things such as helping achieve company vision, meeting organisational values, corporate giving programs, career pathways, opportunities for further study and personal development. The implications for organisations are that when survival and security are met (staff are paid well and have job stability) they will seek out higher-order behaviours that lead to greater self-fulfilment and wellbeing.

SOME DISTINGUISHING POINTS ABOUT MASLOW'S THEORY.

Deficit principle - A satisfied need is not a motivator of behaviour.

Progression principle - A need at one level does not become activated until the next lower-level need is satisfied.

Needs levels	General rewards	Organisational factors
1. Physiological	Food, water, sex, sleep	• Pay • Pleasant working conditions • Cafeteria
2. Safety	Safety, security, stability, protection	• Safe working conditions • Company benefits • Job security
3. Social	Love, affection, belongingness	• Cohesive work group • Friendly supervision • Professional associations
4. Esteem	Self-esteem, self-respect. prestige, status	• Social recognition • Job title • High status job • Feedback from the job itself
5. Self-actualisation	Growth, advancement, creativity	• Challenging job • Opportunities for creativity • Achivement in work • Advancement in the organisation

Table 3.4.1: Applying Maslow's Hierarchy of needs to the workplace.

CHECKING FOR UNDERSTANDING

You have recently been hired as an Organisational Psychologist at a new company. You have been asked to design and implement a system that will increase employee motivation.
Using Maslow's Hierarchy of Needs Theory, brainstorm different actions that could motivate your employees at each level of the hierarchy

Alderfer's ERG Hierarchy of Needs

Developed by Clayton Alderfer this theory is a simplified version of Maslow's hierarchy of needs that suggests that all human needs can be accessed and satisfied simultaneously, rather than from the bottom up. Either way, as needs are satisfied, employees are **motivated** to strive to satisfy a new need.

Some distinguishing features of Alderfer's theory: Any or all of the needs can influence behaviour at one time.

Frustration-regression principle – an already satisfied lower level need becomes reactivated when a higher-level need is frustrated.

On a work level, this means that managers must recognise employees' multiple simultaneous needs. In Alderfer's ERG model, focusing exclusively on one need at a time will not motivate people. The frustration-regression principle impacts workplace motivation. For example, if growth opportunities are not provided to employees, they may regress to relatedness needs, and socialize more with co-workers. If you can recognize these conditions early, steps can be taken to satisfy the frustrated needs until the employee is able to pursue growth again.

Differences between ERG theory and Maslow's model
Alderfer's ERG motivation theory differs from Maslow's theory in three ways:

Existence needs – concerned with sustaining human existence & survival and covers physiological & safety needs of a material nature (Maslow's first 2 levels)

Relatedness needs – concerned with relationships to the social environment and covers love or belonging, affiliation, and meaningful interpersonal relationships with family, friends, co-workers and employees (Maslow's third level)

Growth needs – concerned with the development of potential and covers self-esteem & self-actualisation. These needs help make a person creative and productive and desire to complete meaningful tasks (Maslow's fourth and fifth levels)

Figure 3.4.3: Comparing two hierarchy of needs theories.

1. A lower-level need does not have to be gratified (i.e., a person may satisfy a need at hand, whether or not a previous need has been satisfied).
2. If a relatively more significant need is not gratified, the desire to gratify a lesser need will be increased
3. Alderfer's ERG theory allows the order of the needs to differ for different people (e.g., it accounts for the "starving artist" who may place growth needs above existence ones).

CHECKING FOR UNDERSTANDING

1. Re-read Fillipa's case study on page 203. Compare and contrast Maslow's and Alderfer's theories of motivation to explain Fillipa's motivation towards her work.

2. If you were Fillippa's manager, what strategies could you use to ensure that Fillippa maintains her level of motivation to excel at work?

VROOM'S EXPECTANCY THEORY (1964)

Expectancy theory is a cognitive theory of motivation which suggests that employees are rational decision makers who will put effort into activities that lead to rewards that they are seeking. Cognitive theories relate to people thoughts, and beliefs about the situation.

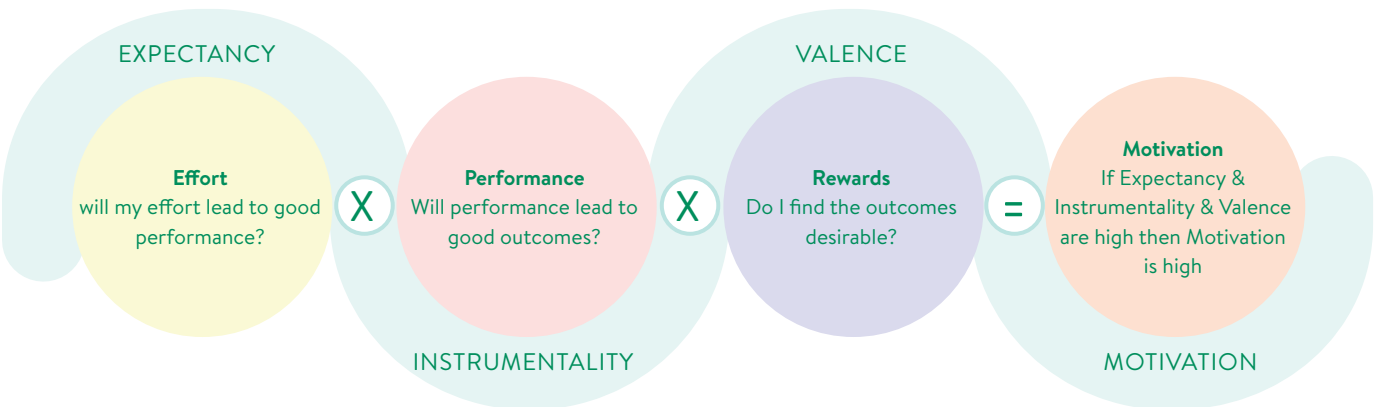


Figure 3.4.4: A mental model of Vroom's expectancy theory.

At its simplest level, expectancy theory suggests that effort is related to an employee's *beliefs* that:
1. Effort will lead to performance
2. Performance will lead to an outcome
3. The outcome is valued

THE FIRST BELIEF

When deciding how much effort to put into a task, or performance goal – ***expectancy*** plays a key role. If you think investing more effort will significantly increase your likelihood of achieving the goal, this should increase your motivation to invest that effort. However, if you think that the amount of effort you invest will have little impact on your chance of successful goal completion, this is likely to decrease your motivation to invest the required effort.

You can probably relate to this concept with regard to some of your school assignments. Have a think about the tasks you put lots of effort into at school because you believe that a good performance will lead to a positive outcome (i.e. a good grade).

In some jobs there may seem to be no relationships between how hard you try and how well you do, in others there may be a very clear relationship so that the harder you try, the better you do. If expectancy is low, then it will make very little difference to them whether they work hard, because effort and performance seem unrelated. For example, employees working on an assembly line can only work as hard as the person before them on the line – working harder is futile and doesn't lead to an increased performance at work.

CASE STUDY

On the other hand, consider our case study Filippa – if they believe that their performance is related to their effort – Filippa will be motivated to put in more effort – Filippa will work hard, will be positive in enhancing relationships and interactions, and make their patients and the other doctors' day easier to manage by being pleasant, polite and organised.

To sum up this component of the theory – motivation is highest in jobs that have high expectancy.

The second belief is that performance will lead to an outcome. This is called ***instrumentality***. It answers the question that Fillippa might have about what the ultimate outcome will be of her always performing her job well. Instrumentality exists in the employee's mind, so whether or not doing a good job *actually* leads to the desired outcome is not the point. **Psychological contracts** are mutual beliefs, perceptions and informal promises between the employer and employee, with trust being the basis for the social exchange. A breach in the Psychological Contract occurs if employees perceive that their company have failed to deliver on what they perceive was promised, or vice versa What matters is whether the employee believes that the connection is real. For example, if a promised promotion was not given to a salesman who achieved the required sales, this will lower their instrumentality or belief that another promised reward will be given next time they achieve the required sales.

CASE STUDY

If Fillippa believes that the offer of a permanent job is highly conditional on her performance at work, then the instrumentality associated with that outcome is very high. If Fillippa understands that she will continue to be on contract for a long time due to budget constraints, and that it doesn't matter if she performs well or not, there will be no chance for permanency, then the instrumentality will be zero.

According to expectancy theory, for motivation to occur, a person must *believe* that there is some relationship between job performance and attainment of outcomes, otherwise increased effort won't seem worth it.

Finally, the third belief that is essential for employees to put in effort is that the outcomes are valued – this is known as *valence*. Valences are the

employee's feelings about the outcomes. If the outcome (in Fillippa's case - a permanent job) is seen as attractive, the employee assigns a positive valence to these feelings.

Figure 3.4.5: Depending on the value (valence) placed on these incentives they may act as a motivator or may not.

In some businesses, incentives such as "employee of the month" are used to encourage effort and increase performance, in others, financial bonuses for high performance are given. An employee who doesn't want their name and face on the wall in McDonalds for a month may not be motivated to perform well, and only be motivated enough to keep their job and not get fired. Managers can make the mistake of assuming that what would motivate them will motivate their employees, and then wonder why their employees do not seem to be motivated.

So, if someone perceives that any one of these is true:

- My increased effort will not increase my performance
- My increased performance will not increase my rewards
- I don't value the rewards on offer

...then Vroom's expectancy theory suggests that this individual will not be motivated. This means that even if an organisation achieves two out of three, that employees would still not be motivated, all three are required for positive motivation.

To Maximise Expectancy

Make the person feel competent and capable of achieving the desired performance level.

To Maximise Instrumentality

Make the person confident in understanding which rewards and outcomes will follow performance accomplishments.

To Maximise Valence

Make the person understand the value of various rewards and outcomes.

Figure 3.4.6: A summary of Vroom's expectancy model.

CHECKING FOR UNDERSTANDING

https://tinyurl.com/4mmktf5v

Watch this video clip of a manager giving his employees a goal to reach. After watching the clip, take a minute or so to write down why you think the employees were motivated to reach the target. Then discuss your answers with a partner.

Discuss: Why do you think the employees were motivated in this scenario?

Expectancy: Effort → Performance - I believe I can achieve this goal

Instrumentality: Performance → Reward - If I achieve this goal, I will be rewarded

Valence: Reward = 👍👍- I value the reward associated with achieving this goal

Motivational Force = Expectancy x Instrumentality x Valence

THINK-PAIR-SHARE:

Reflect upon your own motivation for an activity you are involved in. This may be your motivation towards schoolwork, motivation to train for your sporting team, motivation to work hard at your part time job, or motivation to move onto whatever is next for you beyond school.
Create a mental model, or diagram that represents your motivation towards your chosen activity.

EFFORT	→	PERFORMANCE	→	REWARD	→	MOTIVATION
Describe the effort you put in, and your beliefs about performance		Describe whether your performance is leading to the desired rewards		Do you value the reward you are receiving? Explain.		Rate your motivation towards this activity – is it high or low?

SCIENCE INQUIRY SKILLS: STUDENT ACTIVITY:

Work Motivation Lesson Plan – Teaching of Psychology (futuresinitiative.org)
https://tinyurl.com/tr9fsdsz
This activity requires some teacher preparation to create an activity in which students are given different task goals and aims to test Locke's goal setting theory in the classroom by demonstrating how SMART (Specific, Measurable, Attainable, Relevant, Timely) goals increase students' motivation on a certain task.

LOCKE'S GOAL SETTING THEORY (1968)

Goal setting theory is based on being motivated to put effort into achieving specific goals. Its basic premise is that setting clear, specific and challenging goals leads to enhanced performance because we have increased motivation to achieve the goal.

Goal setting theory is one of the most widely studied theories of motivation, and probably the theory most familiar with high school students and teachers. It would be rare to find a school in South Australia which hadn't asked students at some point throughout their high school years to set some **SMART** goals, whether that be on what they want to achieve next term, next year, or after school.

Because this theory is so widely researched and agreed upon, much is known about what makes goals effective versus ineffective. Locke and Latham's goal setting theory highlights the importance of the following five points.

CLARITY

1. Goals must be clear and specific

- Your goal should state in a clear and **specific** way exactly what you want to achieve. There should be no room for ambiguity. It also needs to specify a finite period of **time** in which you can achieve this goal.
- By stating clearly what your goal is, you are motivated to fulfill it and can easily identify the reward you gain with its completion. There can be no misunderstanding as your goal is easy to **measure**.

CHALLENGE

2. Goals should be challenging (attainable - but not overwhelming)

- The greater the reward you have when attaining your goal, the more you are motivated to do so. This motivation becomes larger the more the goal is perceived to be challenging, allowing a greater sense of accomplishment once you have fulfilled the goal.

COMPLEXITY

3. Goals should have the right level of complexity.

- If your goal is too easy, there will be little motivation, research shows you will feel more satisfied when you achieve a harder goal.

Figure 3.4.7: Essential criteria for a SMART goal.

- However, if one your goal seems unattainable, it no longer serves as an effective motivator.

COMMITMENT

4. Goals that are set collaboratively can help employees take ownership as they will be more committed to the goals

- The relationships between goals and performance is also impacted by how committed you are to your goal. Goal commitment is enhanced when individuals believe they can achieve the goal, and when the goal is seen as relevant and important. Setting goals collaboratively is particularly important when working in teams as it ensures that all team members are committed to and motivated by their agreed goals Having a voice in setting the goal, rather than trying to achieve a goal that has been imposed, is much more motivating.

FEEDBACK

4. Constructive feedback should be provided regularly

- Feedback is a major contributor to motivation and empowers people by enabling them to build upon their successes; it also allows them to know that their efforts are appreciated.
- Research has consistently demonstrated that people who receive feedback on how well they are doing are more likely to accomplish their goals.

CHECKING FOR UNDERSTANDING

Write some SMART goals for Fillippa to her help her have the motivation to achieve her goal.

S M A R T

Who	**What** (Action words)	**Under what conditions** (Where, with whom)	**How often** (Success measure)	**By when** (Timeframe)	**To achieve** (Goal)
E.g. - Fillippa will	Seek feedback	from her manager about her performance	weekly	For 1 month	about her interactions with others

Bringing it all together

The theories described above reflect different approaches to what motivates people, both in their personal lives, but more importantly in the context of working in their organisation – hence the interest for organisational psychologists.

COMMON THEMES EMERGE.

1. Most theories recognise that humans have intrinsic desires or needs that influence their decision-making and behaviour

Maslow and Alderfer *make this obvious in their theory of needs driving motivation*
Vroom *recognises that a reward can be of different value to different people depending on their needs*
Locke's *goal setting theory implies that emotions, desires, attitudes towards a goal influence commitment to the goal*

2. Distinctions between two categories of motivational theory become evident

Content theories *identify the conditions within the individual necessary for motivation. Maslow and Alderfer's needs based theories are classified as content theories.*
Process theories *attempt to explain motivation by looking at the interactions between people and their situation. These interactions determine how motivated a person will be. Vroom's expectancy theory, and Locke's goal setting theory are both process theories.*

3. Each of these theories has implications for managers, leaders and the design of jobs, to support and maximise employees' motivation, to maximise performance and employee wellbeing and loyalty. When people are happy, rewarded and motivated at work, they will work hard for their organisation.

From Maslow's Hierarchy of Needs we learn: An ideal job would provide safety, opportunity for contact with other people, opportunity to progress to higher positions and opportunities to grow and learn.
From Alderfer's ERG theory we learn: An ideal job would provide opportunities for all needs to be met at the same time, security, opportunities to grow, and to connect with others.
From Vroom's expectancy theory we learn: An ideal job would provide specific achievable performance goals associated with valued rewards.
From Locke's goal setting theory we learn: An ideal job would provide stable, challenging but achievable goals with which employees could identify and to which they can commit

SCHOOL ASSESSED TASK IDEA: SAT - REAL WORLD ISSUES: WORKING REMOTELY

Conduct some research into how to motivate employees who are working remotely.

- Consider the advantages and disadvantages of working remotely on employee motivation.
- Relate your findings to the theories learned throughout this topic.
- Arrive at a conclusion about the future world of work, and whether working remotely has a positive or negative impact on employee motivation.

Hackman and Oldham's job design theory

In the 1960s, organisational psychologists began trying to understand motivation problems associated with the industrial production-line model for working. It was found that this way of working did not lead to motivation or job satisfaction, and in fact was de-motivating.

Repetitive tasks involving only a small part of a work task were far less motivating than they had been when the workers completed the whole task and meant employees were actually far less productive than they had been before.

Figure 3.4.8: Production line scene from TV show "I Love Lucy".
https://www.youtube.com/watch?v=K3axU2b0dDk

Using this initial research, Hackman & Oldham introduced the "Job Characteristics Model". They proposed that job satisfaction and motivation depends on a number of critical factors associated with the design of a job. In particular, they found that jobs requiring the worker to use a range of skills to complete a whole job rather than just part of it were more motivating and that motivation was further increased the more meaningful the job was to the worker, the more autonomy they had in how they performed it and the more feedback they received about their performance. They found that these factors affected motivation in a wide variety of jobs in the workplace. Continued research showed that their model could be applied to any workplace.

To achieve employee motivation and satisfaction jobs should have:

Skills variety: are tasks varied, interesting and challenging? Or are they monotonous, boring, and easy?
Task identity: are the tasks identifiable, with a start and end point that allows for job achievement? Without this, it's hard to achieve the satisfaction of getting a task finished.
Task significance: is the role meaningful?
Task autonomy: do employees have input into how they carry out their work?
Job feedback: are employees receiving feedback on their performance?

SO, WHAT DOES THIS MEAN FOR TODAY'S EMPLOYERS?

The findings associated with this research on the motivational aspects of job design resulted in the development of two common motivational methods.

ONLINE ACTIVITY: Follow the link to complete a measure of Hackman Oldham's job design theory and consider the factors that have influenced their motivation scores. How could your motivation be increased? If you don't have a part time job, consider your schoolwork as your job? Do you score highly for motivation towards your schoolwork? https://tinyurl.com/4tupdvfe

Job rotation involves employee's multiskilling and being able to rotate through a variety of roles, their own, and those of colleagues. This strategy aims to break up work, provide the skill variety the Hackman and Oldham model proposes and create a multi-skilled workforce. Tech giant Intel uses job rotation to fill temporary positions, which improves employee satisfaction, teaches new skills, helps people know more about the organisation – and keeps things moving. Hospitals, office administration roles, even fast-food restaurants expect employees to be able to step into any of the roles, rather than specialising (and getting bored) in one role only.

Job enrichment aims to make people's job roles at work more interesting and mentally challenging and hence more rewarding. A good example of this might be to ask an experienced employee to take on some coaching, adding interest and demonstrating recognition of their knowledge and skills. Car giant Volvo introduced job enrichment schemes into its manufacturing plants as far back as the 1970s, recognising the issues with production-line dissatisfaction. When people have an opportunity to contribute to more complex work tasks in their company, they feel more responsibility, they experience more meaning at work and can see the bigger picture about why they are doing what they are doing.

These strategies lead to higher motivation, better retention rates at work, less sick leave and higher work performance – from both the employee's and the employer's perspective, these are very positive outcomes of job design.

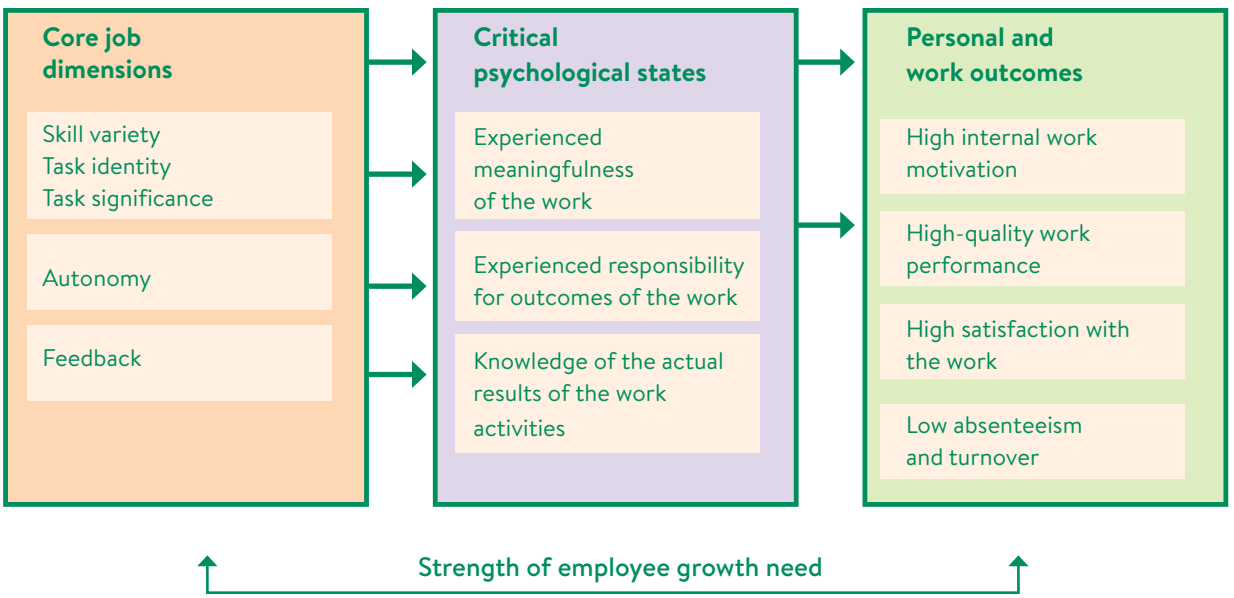


Figure 3.4.9: Overview of Hackman and Oldham's job design theory.

SCIENCE AS A HUMAN ENDEAVOUR: REAL WORLD APPLICATION

Conduct some research into contemporary businesses. Choose one or more business enterprises to be the focus of your research. Examine the communication and collaboration, development, application, influence and impact of these companies as they implement strategies based on psychological research to improve employee motivation and therefore productivity.

Technology companies such as Google, Apple, Microsoft, Netflix, Facebook, are good places to start.
https://tinyurl.com/zf7xczsh

COMMUNICATION AND COLLABORATION

- Science is a **global enterprise** that relies on **clear communication**, international conventions, and **review and verification of results**.
- **Collaboration between psychologists and stakeholders progresses research, understanding and enterprise.** It requires shared evidence from many sources in a multidisciplinary approach.

DEVELOPMENT AND APPLICATION

- **Developments in research, enterprise and technology lead to advancements in psychological understanding.**
- The application of psychological understanding can enable scientists to develop solutions, progress discoveries, **design action, evaluate and respond to economic, social, cultural, and environmental and sustainable factors**.

INFLUENCE AND IMPACT

- Psychological knowledge and its application are both influenced by, and **influence economic**, sociocultural, religious, ecological, environmental, sustainable, ideological and political perspectives in a **local, national and global context**.
- The use of psychological knowledge may **impact through beneficial or unexpected consequences** requiring monitoring, assessment, and evaluation of risk, through ethical considerations.

YOUR FINISHED PRODUCT SHOULD INCLUDE THE FOLLOWING:

- an **introduction** to identify the focus of the investigation and the aspect of **science as a human endeavour** that it links to
- an **explanation** of how the focus of the investigation illustrates science as a human endeavour
- **explanation of relevant psychology concepts** or background
- **a conclusion** with justification (discussion of the potential impact on employee motivation)
- **citations and referencing**.

3.5 TEAMWORK

- Explore the factors which have contributed to the modern workplace, teamwork and working conditions.
- Explore factors that are important for developing and optimising teamwork, and the ability of a team to optimise performance and achieve common goals.
- Describe the measures that can be used to assess team related characteristics, e.g. Myer Briggs or Belbin's team roles.
- Describe how some of the following factors or others could have a positive or negative impact on team performance:
  - the forms of communication
  - conflict resolution
  - bullying
  - groupthink
  - norms of interaction
  - reciprocal engagement
- Explain how information processing theory and measures of conflict management styles can be used to understand and facilitate team communication.

2022 Subject Outline | Stage 2

Changing factors in the modern workplace and conditions

People now tend to work more in teams than individually due to changes in working conditions since the industrial revolution and particularly due to the rise in service industries in the last half of the 20th Century. One of the most notable changes in the workplace has been **technological innovation**. Nearly all businesses have transformed to a wireless, digital workplace. With the introduction of paperless digital signatures, gone are the days when you had to sign contracts with pen and paper and meet face to face to do so. Even the simple task of signing into your device has been replaced with fingerprint confirmation or retina eye scans and school newsletters, reports or assessments are all accessed and submitted electronically. **Improved communications** enable employees to work effectively from remote locations whilst still being able to collaborate on projects in real time with colleagues using Teams, Google documents, Zoom. In 2020 we saw mass education delivered in digital environments due to the challenges with face-to-face learning in the midst of the global pandemic.

Other factors leading to changing workplace and conditions:

- Increase in services and reduction in manufacturing.
- More than half of the workforce are women which has led to changes in workplace policies such as maternity and now paternity leave, children in the workplace.
- Working from home to accommodate parents with young children.
- Increase in part time workers over the past 20 years including job share roles.
- Increase in graduate career pathways.

Despite many organisations making an effort to change workplace policies to foster a diverse workplace of inclusiveness, regardless of gender, ethnicity, colour, or sexual orientation, many still fall short in the ability to achieve the elimination of harassment or inequality.

The range of changes in the workplace over the last 20 years has required industry to reconsider how organisational goals can be met without

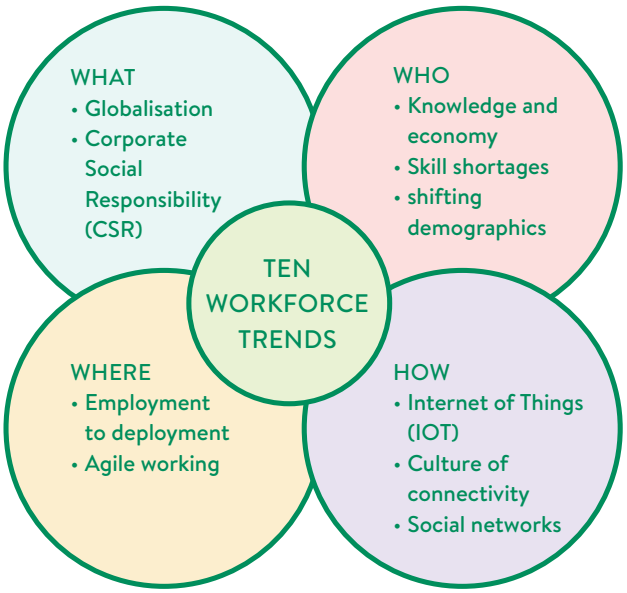


Figure 3.5.1: Ten trends changing the contemporary workforce.

compromise of quality or efficiency. One-way organisations have addressed this is by redefining job roles, organisational goals and shifting from the focus on the individual to the team. Workplaces focused on the success of the team will be more able to address the changing landscape alongside the increase of international competitiveness. Teams provide the organisation with a more flexible, highly skilled, and adaptable workforce that is more able to deal with complex problems of achieving difficult goals and organisational change that require more knowledge and skills than are possessed by a single manager or worker. The diagram below illustrates the structural differences in traditional organisations compared to team-based organisations.

	Traditional Organisation	Team-Based Organisation
Formalisation	All activities and procedures are clearly described in formal written documents.	Activities and procedures depend on team goals and are not necessarily formally written.
Specialisation	Individuals and departments specialise in a particular task/function.	Individuals/teams learn as many skills to perform tasks to do their jobs.
Hierarchy	Clear reporting lines with managers having few direct reports.	Organisation is flat, more lateral relationships and only a few levels.
Centralisation of decision making	Decisions made by managers and passed down to employees.	Decision is made by a team and coordinated with other teams.
Differentiation	Departments and their functions are clearly different from one another.	Differentiation is based on project and not function.
Integration	Activities are coordinated by managers of different departments.	Each team is responsible for coordinating with other teams.

Figure 3.5.2: Illustrating the structural differences in traditional organisations compared to team-based organisations. Credit: Lumen learning.

OPTIMISING TEAMWORK AND PERFORMANCE

Not everyone works well in teams and this needs to be considered by the organisation when putting teams together. Some important features of teamwork include:

- **Collaboration over competition** – employees working together on a common goal mean that success and failure are attributed to the team rather than to an individual. Shared goals also provide a sense of shared responsibility that can enhance team outcomes.
- **Complementary skills** – utilising the diversity of knowledge and skills that each member brings ensures that team goals are more likely to be achieved and that each team member can be acknowledged for their contribution".
- **Collective identity** – a shift from individual manager decision making to team decision making provides opportunities for employees to have a sense of identity and their own role in and responsibility for group decisions. Teams encourage members to be aware of their role in the team and the expectations that other team

members have of their contribution to the team goal and success.

- **Communication and cohesion** – group cohesion can result in greater individual and greater group performance. Communication is one factor that increases group cohesion with many cohesive groups reporting positive communication as a key factor in their team dynamics.
- **Group norms rather than rules** – norms that are established and reinforced by the group encourage engagement in the behaviours expected whilst working within the team and help it to achieve its goals.

Figure 3.5.3: The dynamics in a work team can make a big difference to motivation and team outcomes.

Factors impacting team performance

The following factors collectively contribute to team success: agreed team goals to provide a sense of collective identity, team members with required expertise, norms for open communication that encourages discussion and prevents group think, stability of group membership and appropriate group size that is not too small to include all needed expertise or too large to be cohesive.

The successful operation of a team can take time to develop and it can be impacted by conflicting personalities. Tuckman and Jensen (1997) proposed that successful groups pass through five stages of development. Each stage is important as failure at any stage will negatively affect subsequent stages. For example, failure to establish effective norms will interfere with the performing stage requiring the team to go back to the norming stage.

TUCKMAN AND JENSON MODEL OF TEAM DEVELOPMENT

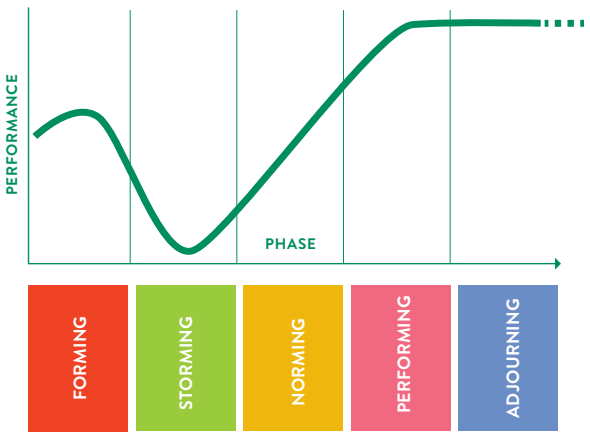


Figure 3.5.4: Tuckman and Jenson model of team development.

Working effectively in teams depends on personal characteristics including personality, knowledge, experience and skills. Refer to the personality assessment Topic 1.4 (page 44) to refresh your knowledge on the measures that can be used to assess personality and determine suitability for teamwork and leadership.

In the 1970s, Dr Meredith Belbin set out with a team of researchers to investigate how teams operate and to observe how and where differences between teams occurred. Over a period of nine years and engaging with international organisations, the research revealed that the difference between success and failure for a team was more dependent on the way people in teams behave towards each other rather than on intelligence. The researchers also found that people engage in teams in different ways leading Belbin and his team to identify a set of behaviours that provided the basis for nine distinct team roles. They found that the most successful companies developed teams with a mix of people from each of these different

roles. They also recognised that some people can adopt more than one role based on their personality thus a team does not need to consist of nine people, one for each role (Belbin 2015). The value of having all these roles covered is that they can complement each other with the strengths of one role compensating for the weaknesses of another role.

The following diagram illustrates the team role, their contribution, alongside their relative weakness.

Whilst it is not possible to complete the Belbin test online free, there are a number of sites providing similar online quizzes to identify your ideal team role.

BELBIN'S TEAM ROLES:

Team Role	Contribution	Allowable Weaknesses
Plant	Creative, imaginative, free-thinking. Generates ideas and solves difficult problems.	Ignores incidentals. Too occupied to communicate effectively.
Resource Investigator	Outgoing, enthusiastic, communicative. Explores opportunities, and develops contacts.	Over-optimistic. Loses interest once initial enthusiasm has passed.
Coordinator	Mature, confident, identifies talent. Clarifies goal. Delegates effectively.	Can be seen as manipulative. Offloads own share of the work.
Shaper	Challenging, dynamic, thrives on pressure. Has the drive and courage to overcome obstacles.	Prone to provocation. Offends people's feelings.
Monitor Evaluator	Sober, strategic and discerning. Sees all options and judges accurately.	Lacks drive and ability to inspire others. Can be overly critical.
Team-worker	Cooperative, perceptive and diplomatic. Listens and averts friction.	Indecisive in crunch situations. Avoids confrontation.
Implementer	Practical, reliable, efficient. Turns ideas into actions and organises work that needs to be done.	Somewhat inflexible. Slow to respond to new possibilities.
Completer Finisher	Painstaking, conscientious, anxious. Searches out errors. Polishes and perfects.	Inclined to worry unduly. Reluctant to delegate.
Specialist	Single-minded, self-starting, dedicated. Provides knowledge and skills in rare supply.	Contributes only on a narrow front. Dwells on technicalities.

Figure 3.5.5: Belbin's team roles.

STUDENT ACTIVITY:

Take a Team roles test here:
https://tinyurl.com/3n5yby4e

Results:
Consider how your characteristics would enable you to work effectively as a team member or are you better working in an independent role?

Researchers have identified numerous factors that can have a positive or negative impact on team performance.

CHECKING FOR UNDERSTANDING

Conduct research on the following factors and explain their potential impact on team performance. Helpful resource: **https://tinyurl.com/68akvtze**

Factor	Definition	Implication of team performance
Forms of communication		
Conflict resolution		
Bullying		
Group think		
Group norms		
Reciprocal engagement		
Social facilitation		

CONFLICT MANAGEMENT AND FACILITATING TEAM COMMUNICATION

Conflict may be defined as a struggle or contest between people with opposing needs, ideas, beliefs, values, or goals. Conflict in teams is inevitable; however, the results of conflict are not predetermined. Conflict might escalate and lead to non-productive results, or conflict can be beneficially resolved and lead to quality final outcomes. Which of these styles for handling conflict will be more appropriate will be contingent on the circumstances that have led to the conflict? For example, avoiding might be the most useful style of handling conflict if the matter is of only minor importance.

Therefore, learning to manage conflict is integral to a high-performance team. Contemporary theory recognizes that conflict between human beings is unavoidable. They emerge as a natural result of change and can be beneficial to the organisation, if managed efficiently. Kirchoff and Adams, (1982) considers innovation as a mechanism for bringing together various ideas and viewpoints into a new and different fusion. An atmosphere of tension, and hence conflict, is thus essential in any organisation committed to developing or working with new ideas (Asopa and Beye, 1997).

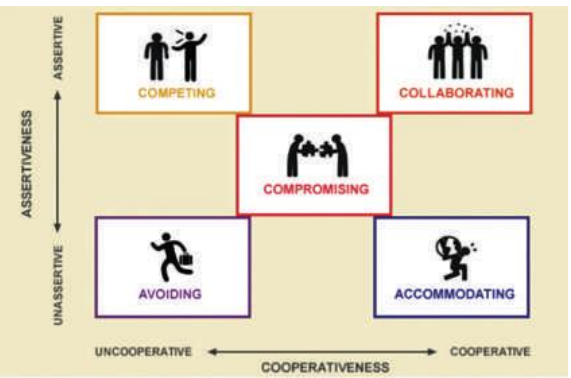


Figure 3.5.6: Illustrating "A Measure of Styles of Handling Interpersonal Conflict".

HELPFUL ONLINE RESOURCES

Read more about conflict management styles by following this link: https://tinyurl.com/38bu5cfr

Although there is no absolute way to handle a conflict, there are five predominant styles of conflict management, which are competing, avoiding, accommodating, compromising, and collaborating.

Conflict management can be used to understand and facilitate team communication.

Many conflicts at work are caused by misunderstandings, lack of communication or simply down to human diversity within the team. Having knowledge of different conflict resolution styles can help team members to communicate and manage conflict productively to maximise team effectiveness and success. This knowledge can help leaders and team members to facilitate their approach to collaborative work and the achievement of team goals. It can also enhance working relationships and build trust within the team and in individuals' skills and abilities.

CHECKING FOR UNDERSTANDING

Complete research on Conflict management styles and fill in the table below:

Management style	Definition	Example of when to use it
Competing		
Avoiding		
Collaborating		
Accommodating		
Compromising		

Discussion question:

Which style of conflict resolution would be most effective in a school context with students?

Identify the best management style to address the following scenario:

You are part of a wider team that looks after a large group of workers in the organisation. Each time you go to a meeting, one of your colleagues makes an insulting comment but smiles and laughs when doing so, e.g., "I'm surprised you're here today as every time I look at the absent workers list you seem to be on it." Today you have been paired together to work on a collaborative task. Whilst you were talking about the task they interrupted and suggested that you do your part and I will do mine, turned away and put their earphones.

Which conflict management style would be most effective to address this and why?

.....

.....

.....

.....

3.6 LEADERSHIP

- **Compare two different theories of leadership in terms of assumed critical factors such as personality traits or environmental circumstances, e.g. trait theory, and contingency theories like that of Hersey and Blanchard.**

2022 Subject Outline | Stage 2

Good leadership is essential for an organisation and its workers to perform well.

What is leadership?

Leaders stand out in a crowd, they are often the public face of a company, school, government or organisation. But do all of these leaders display leadership qualities, and are they the same leadership qualities?

Take a moment to google the phrase "What is leadership?" and write down 4 definitions that appear on the first page of your google search below.

LEADERSHIP DEFINITIONS:

Definition 1: .....

.....

Definition 2: .....

.....

Definition 3: .....

.....

Definition 4: .....

.....

If you highlight the common aspects of these definitions, it is likely that you have determined that leaders have "followers, they set a direction for their followers, and they have power and / or influence".

Leadership in its simplest form therefore involves:

- A leader, or leaders
- Followers
- A common goal they want to achieve

BRAINSTORMING ACTIVITY #1:

Write the names of leaders you know or are aware of. Think local, national and global, consider inside your school, your friendship group, sporting groups, or well-known historical leaders.

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Figure 3.6.1: What makes a good leader? Are they leading from the front, or supporting from behind the scenes?

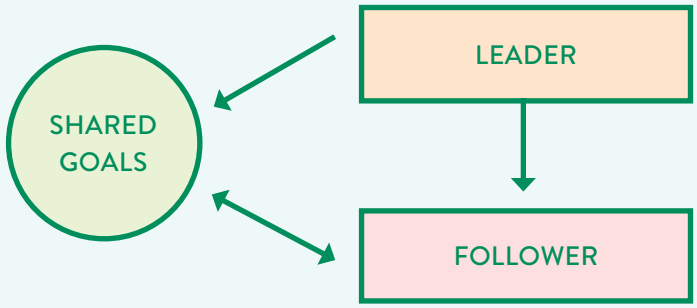


Figure 3.6.2: Leadership involves 3 components.

BRAINSTORMING ACTIVITY #2

List as many characteristics as you can of good and poor leaders you have either encountered yourself, or observed through the people you listed in Brainstorming Activity 1.

What makes a good leader	What makes a poor leader

Why do we need leaders?

Have you ever considered what happens in the absence of a leader – temporary chaos and anarchy, then quick appointment of a new leader to take their place. You only need to read 'Lord of the Flies' by William Golding, or consider the behaviour of people when their leader falls, such as in Iraq when their leader Saddam Hussein was captured. Consider the leadership that arose during the Black Lives Matter rallies in 2020, when in the absence of genuine power or authority, the people took to the streets to riot and protest.

The need for leaders, and the dynamic between leaders and followers can be found can be found in every human society throughout history and in across countless species – from horses to bees to wolves In humans and animals, leaders influence groups to act in order to keep them safe or help them fulfill a biological need to eat, drink, or reproduce.

In the early 2020s we found ourselves in the middle of a global pandemic. We are experiencing a volatile economy, emerging and declining jobs, accelerating technological change, so employees and leaders are feeling very uncertain. Today's students have never known a world of phone books, CD players, fax machines or cars without

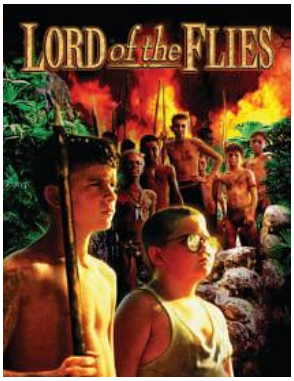


Figure 3.6.3a and 3.6.3b: Consider the outcomes for society when leadership is absent?

air-conditioning. The next generation will never use a desktop computer, physical credit card or drive a car requiring a physical key. In a world where everything we touch is electronic, and our we experience stress when we can't access Wi-Fi, leaders have an enormous task ahead of them to be able to respond to these changing cultures, generations and expectations that they find amongst their teams. In his book *"The Seven Habits of Highly Effective People"* Stephen Covey said, "Seek first to understand, then be understood". This is the core business of a leader. They need to be able to listen and understand the people they are working with in order to lead effectively.

Theories of Leadership

Leadership is widely researched, and there are many theories that have been developed to answer questions such as "are leaders born or made?", "Can you learn to be an effective leader?", "What are the qualities that make a great leader?", "Who is the best leader to lead our organisation?". For this reason, Boards of organisations, Chief Executive Officers (CEOs), managers as well as organisational psychologists alike are very interested in what the research has to say on this important topic.

> **A boss who micromanages is like a coach who wants to get in the game. Leaders guide and support and then sit back to cheer from the sidelines.**
>
> **—SIMON SINEK**

In terms of leadership theories, we will focus on Trait Theory and Contingency Theories, however, teachers and students are welcome to investigate all or any of the leadership theories available.

WHAT ARE TRAIT LEADERSHIP THEORIES?

Trait theory is also known as the virtue theory of leadership. The trait approach is one of the oldest conceptions of leadership, established by Ralph M. Stodgill in the late 1940s, and refers to attempting to identify critical leadership personality characteristics. This theory is based on the premise that leaders are "born not made", in other words that leadership is largely innate or present at birth, rather than being able to be developed through learning and training.

As we saw in Topic 1.3 (page 33) when we looked at Trait personality theory, we know that personality traits reflect "a range of stable individual differences, including personality, temperament, motives, cognitive abilities, skills and expertise."

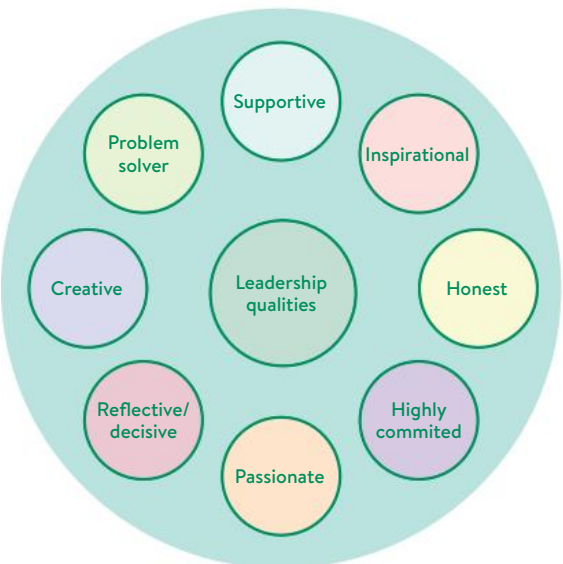
In this view of leadership, effective leaders possess personal characteristics associated with effective leadership. Under the influence of this theory organisational psychologists and Boards of organisations have looked to employ leaders based on personality traits. Because of their stable nature it was assumed that leadership traits, once identified, should be able to predict person's success as a leader.

The problem that developed with the trait theory of leadership is that although there are some obvious personal characteristics that everyone associates with leadership, like being assertive and decisive, over time research revealed an ever-increasing number of such personality characteristics such as:

- Decisiveness
- Dynamic
- Outgoing
- Assertive
- Strong
- Bold
- Persuasive
- Alertness
- Stress Tolerance
- Emotional Maturity
- Self Confidence
- Honesty
- Drive for achievement

Research on traits that seemed to be associated with how well accepted by their followers included traits such as:

- Tall, good-looking
- Poised
- Articulate
- Confident
- Authoritative
- Integrity
- Competence
- Motivation
- Intelligence



3.6.4: Leadership qualities

EXAMPLES OF TRAIT THEORIES

Subsequent research attempted to identify the most important or essential personality characteristics associated with leadership. For example, research showed that effective leadership is positively associated with the Big Five personality dimensions of extraversion, openness and conscientiousness, negatively associated with neuroticism and unrelated to agreeableness.

An extension of the trait approach to leadership is that certain motivational traits are more or less important for success because of their influence on behaviours of importance to leaders. The research of McClelland and Boyatzsis (1982) identified three important motivational traits that drive leaders.
Need for Power is reflected in the desire to influence other people, control events and to function in a position of formal authority.
Need for Affiliation is the desire to associate or affiliate with people in a social context, to provide guidance and support and to get gratification or satisfaction from helping others to succeed.
Need for Achievement is the desire to solve problems, get results and accomplish goals.

Research shows that leaders tend to be highest on the need for power, then achievement and lowest on the need for affiliation. It is understandable that a leader who is high on affiliation and lower on the need for power might find it hard to make difficult decisions with respect to people on issues like redeploying, retrenching or disciplining workers. However, leaders who have too little need for affiliation may find it difficult to develop and lead a team of managers. How would some of the leaders you are aware of rate on these three motivational traits?"

Figure 3.6.5: McClelland and Boyatzsis (1982) identified three motives that drive leaders.

SCHOOL ASSESSED TASK (SAT) IDEA: LEADING THROUGH TIMES OF CHANGE AND CHALLENGE

The coronavirus crisis of 2020-2021 showed the world what happens in times of fear. Irrational responses to the crisis such as deliberate stockpiling by 6% of shoppers, led to an additional 30% of shoppers buying more than they normally would, depleting shelves of basic household goods. In times such as these, leaders of countries and organisations need to offer calm, confident, rational and practical messages. Belief is a powerful thing. Leaders can achieve great things when others believe they can.

Explore the leadership qualities, and decisions made by key leaders throughout the Covid 19 pandemic. To what extent have effective leaders demonstrated similar traits to one another. Discuss the traits you believe effective leaders need during times of crisis.

LEADERSHIP PING-PONG BALL ACTIVITY WHAT TYPE OF LEADER IS BEST?

Materials:

- 4 buckets
- Character Cards
- Four Ping Pong Balls
- Leadership Style Instructions # 1, #2, #3

Procedure:

- Place a bucket in each corner of the classroom
- Divide students into four teams and have one member of each team nominate themselves as a leader.
- Ask the leader to come see you at which point you will hand them a character card.
  - Tell them that they are to read the Leadership style #1, #2 or #3 and take on the role of their leader type when directing the rest of their group.
- The students will rotate to the different boxes (e.g., leaders) every 3 minutes, until every team has experienced every kind of leader.
- After this is over, have the students participate in a Think, Write, Pair, Share.
  - Ask them to think and write down (individually):
    - The kinds of leaders they experienced.
    - The strengths of each.
    - The weaknesses of each.
    - How the overall mood/efficacy of the group was impacted by the different leaders.
  - Have them share this with a partner.
  - Finally, go around the room and ask for some of the highlights discussed in pairs.

Overall Instruction:

The point of the activity is to get as many Ping Pong balls into the bucket as possible

Leadership Style #1:

You are an authoritarian leader. You believe that you know best, and everyone should do as you say. You give specific direction to how far each participant stands away from the box, how they throw the penny, how many pennies they can have at one time, how many pennies they can throw at one time, etc. You may have participants line up single file, ten feet from the box, and give out one penny at a time when the participant gets to the front of the line. You also are very concerned about keeping score. You are very bossy.

Leadership Style #2:
You are a laissez-faire leader. You believe that if you smile, relax and just stand next to the box providing the pennies that everyone will figure it out. You are very pleasant but do not give much of any directions whatsoever. You answer questions about the rules of the game with a smile, and say comments like, "Whatever you like." "I'm sure it will work out." etc. You do not provide any game or group structure whatsoever.

Leadership Style #3:
You are the team builder leader. You are very positive and try to foster cooperation and collaboration in your team. You encourage them to work together to come up with the best collaborative plan possible to get the pennies into the box. You smile a lot and say lots of encouraging things like: "That's a great idea." "Working together is great." etc. You don't actually tell them to do anything, rather you give endless encouragement when they make any attempt at figuring out how to accomplish the goal.

SCHOOL ASSESSED TASK (SAT) IDEA
POLITICIANS AS LEADERS – ARE LEADERS BORN OR MADE

Investigate politicians who have become leaders in politics, but without a specific career background in that field. To what extent do these leaders demonstrate leadership traits, or a particular behavioural leadership style?
Present your argument in a 3-minute thesis.

SCIENCE INQUIRY SKILLS

Evidence for trait theory has been gathered from survey and questionnaire-based methods where a range of psychometric tests have been given to people in leadership positions. However, one of the major criticisms of trait theory is its simplistic approach in which self-report measures are used to measure traits.

Online Activities - Self Report measures are subjective in nature.
If you haven't already done so in Topic 1, complete one or more of the free online personality assessments, then consider the questions that relate to your Science Inquiry skills, as well as key learnings from Topic 1.4.
Myer's Briggs: **https://tinyurl.com/ajss2fyw**
16 Personality Factors (16PF): **https://www.16personalities.com/**
NEO-PI-R: **https://www.sapa-project.org/**
HESACO – PI – R: **https://hexaco.org/**

Identify some advantages and disadvantages of using self-report inventories to collect data about people's personality characteristics.

Discuss the advantages and disadvantages of using personality assessments for job matching, and suitability for leadership positions.

WHAT ARE CONTINGENCY LEADERSHIP THEORIES?

Contingency theories of leadership assume that there is no one best way to organise, or lead. A leadership style that might be suitable as the principal of your local school, may not be the best leadership style in the army, or as the head of a large corporation, and none, of these leadership roles may be suited to the role of Prime Minister of Australia.

Contingency theories do not deny the importance of certain leadership traits or different leadership behaviour, but what they argue is that different leadership behaviours are appropriate contingent on different situations. It is assumed that leaders

CONTINGENT

The word contingent means, dependent on.

In this context, contingent means "it depends on the situation"

This is a word you will also use in the Learning Topic (Topic 5) where it has a similar meaning, but different context.

can and should change their behaviours depending on circumstance to the extent that they can do this. If they can't change sufficiently then it might be necessary for a Board to appoint a new leader with the required behaviours. Thus, a leaders' effectiveness is contingent upon how his or her leadership style matches the situation. In other words, appropriate leadership behaviour varies depending on the situation.

Contingency theories of leadership focus on which of different leadership styles are most appropriate for those they lead contingent on different organisational situations:

- the effectiveness of the leader, which is dependent on his leadership style and situations.
- the relationship between the leader and the co-worker.

Theories that fall under this approach assume that the leader's traits and behaviours that will be most effective will be dependent on (contingent on) what is happening in the environment.

HERSEY AND BLANCHARD'S SITUATIONAL LEADERSHIP THEORY

Named after its developers, Dr. Paul Hersey, and Kenneth Blanchard, their theory emphasises that there is no ideal leadership style. Instead, this theory assumes that effective leaders need to change their leadership to match the organisational situation Based on this theory, the most effective leaders change their leadership style to match the situation.

According to Hersey and Blanchard, a key organisational factor that leaders need to take into account is what they term the "readiness" of their employees.

Readiness is the extent to which followers have the ability (skill) and desire (willingness) to accomplish a specific task.

Ability is the knowledge, experience, and skill that an individual possesses to do the job and is called job readiness.

Willingness is the motivation and commitment required to accomplish a given task. The style of leadership depends on the level of readiness of the followers.

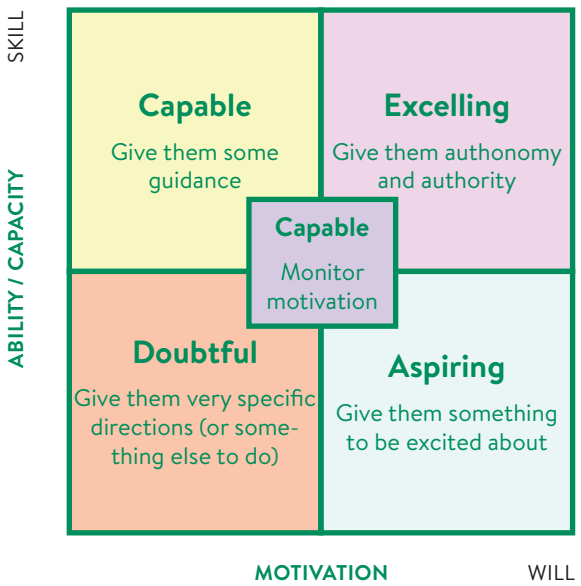


Figure 3.6.7: Motivation/Capability mental model.

HELPFUL ONLINE RESOURCES

Situational Leadership theories explained:

Situational Leadership Overview with Dr. Paul Hersey: **https://tinyurl.com/pyevs2vz**

Situational Leadership | Ken Blanchard: **https://tinyurl.com/37zueb4y**

MBA 101 Leadership, Situational leadership Contingency Model: **https://tinyurl.com/y7pu3m7r**

The Center for Leadership Studies YouTube Channel: **https://tinyurl.com/4zt4ha2f**

Before considering the written theory about this model of leadership, take the time to watch these explanatory videos which summarise this theory, which has multiple variables – or contingencies!
The readiness (R) is divided into a continuum of four levels which are:
For each of the four levels of readiness, the most effective leadership style for employee performance will be a combination of task and relationship behaviours. ***(Note the link here to behavioural leadership theories discussed previously)***

By combining the task and the relationship behaviour, we arrive at the following four different styles of leadership which correspond with the different levels of readiness as shown in the model.

S1 - Telling: This style is most appropriate for low follower readiness (D1) which may be typical of new employees who require instruction and close supervision to learn their work tasks. It emphasizes high task behaviour and limited relationship behaviour. This style might also be appropriate for a newly created team that initially requires a telling style in which the leader provides instruction about the team's goals and how it is to operate with supervision until the team knows what it has to do.

S2 - Selling: This style is most appropriate for low to moderate follower readiness (D2). It emphasizes high amounts of both task (explaining) and relationship (selling) behaviours. This type of leadership is typically used when an employee or team is successfully learning what it has to do, and now needs to be motivated to perform by a relationship with the leader that encourages them.

S3 - Participating: This style is most appropriate for moderate to high follower readiness (D3). It emphasizes high amount of relationship behaviour (to continue encouraging individuals and teams particularly if they have begun to lose motivation) but low amount of task behaviour (because individuals and teams now know how to perform their tasks. The participating behavioural leadership style is most commonly used when an individual

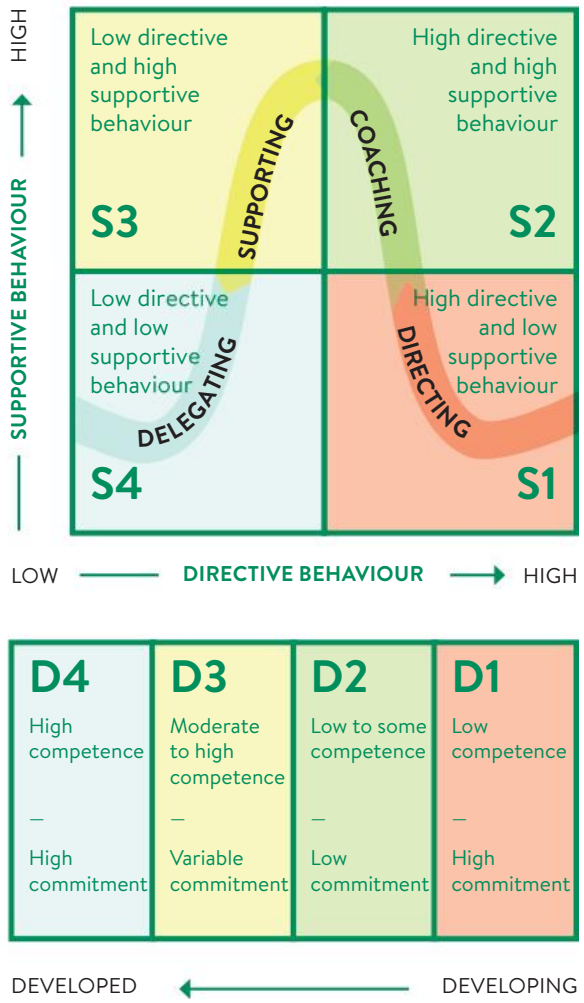


Figure 3.6.8: Visual representation of Hershey and Blanchard's situational theory.

employee or team is competent in their task but may continue to need encouragement from the leader to motivate them.

S4 - Delegating: This style is most appropriate for high follower readiness (D4). It emphasizes low levels of both task and relationship behaviour. The delegating leadership style is when a team is efficient and effective at their jobs and require little guidance.

It can be seen that according to Hersey and Blanchard, there is no best style of leadership but leadership whether emphasising task or relationship needs to change as new employees and teams learn what they have to do and become motivated to do it.

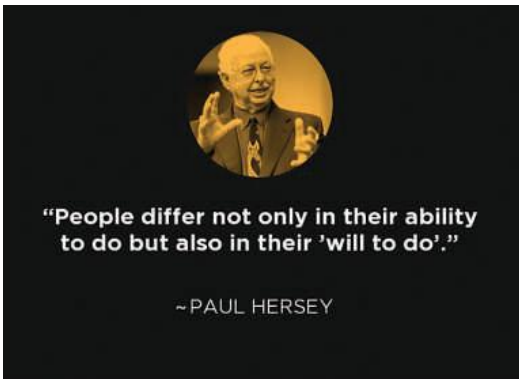


Figure 3.6.9: Leadership quote from Ken Blanchard.
Figure 3.6.10: Paul Hersey's underpinning theory behind the skill/will matrix.

CHECKING FOR UNDERSTANDING: EXAMPLES OF SITUATIONAL LEADERSHIP

Which style of situational leadership would suit this scenario best?
An emergency room has just received a large influx of patients that have been critically injured in a bus accident. With such a large number of patients in the emergency room, the emergency room supervisor must implement a style of leadership to direct the emergency room workers in an efficient manner. This requires the emergency room supervisor to provide constant supervision and regular direction to all emergency room staff to ensure that all patients are seen and taken care of in a timely manner. **Which style of situational leadership would suit this scenario best?**
A manager must oversee the completion of a project with his team. The manager's team has ample experience completing all tasks required for the project and the team has shown confidence and the ability to take responsibility for their work. Knowing this, the manager uses a particular style of leadership throughout the duration of the project and delegates tasks to each team member with minimal supervision **Which style of situational leadership would suit this scenario best?**
A principal must introduce a new program to the staff who don't seem particularly enthusiastic about the new program, as they have implemented similar programs before which students have not found enjoyable. The principal is mandated to implement the program and needs to get the teaching staff on board quickly. Realising this might be tricky, the principal uses high level of enthusiasm, humour, and fun activities to introduce the program at a staff meeting but makes it clear that this is something staff are going to need to do, there isn't an option. **Which style of situational leadership would suit this scenario best?**

Employees at a children's play centre have noticed there are increasing numbers of minor injuries and believe this is due to the placement of the equipment. Knowing that the casual staff have little decision-making ability, the manager uses a style of leadership which gives the opportunity for all staff to come together to brainstorm and share ideas for improving the layout of the equipment to improve safety. The leader can then action these suggestions with the rest of the management and finance team.

Which style of situational leadership would suit this scenario best?

Comparing leadership theories

Becoming an effective leader depends partly on having certain basic personality characteristics. like self-confidence, emotional maturity and drive for achievement, but also on training in how to develop and adapt leadership styles depending on the situation. There are many individual, team and organisational factors that can be important determinants of which leadership style would be most effective. Some personality traits like openness may make it easier for some people to adopt different leadership styles.

The need for many organisations to deal with rapid change has led to an interest in "transformational" leadership which involves inspiring, motivating employees and providing individualised consideration and encouragement to assist them in making required changes. Mark McCrindle in his book "Work Wellbeing" says:

"The key characteristic of a leader is foresight. The reasons they can lead is that they know the way to go. Leaders see things not just as they now are, but as they will be. They not only observe the changing times; they understand them. They don't just get impacted by the trends; they proactively respond to them. They not only adapt their own directions based on the shifting landscape; importantly, they lead others on the journey."

	Trait	Contingency
Definition	Leaders are born with innate traits that are stable	A leader's effectiveness is contingent upon how his or her leadership style matches the situation, or how the leader adapts their leadership style to the situation
Effectiveness of the Leader	Based on the characteristics of the leader	Effective leaders need to be flexible, and must adapt themselves according to the situation
Personality Traits	Important that the leader possess particular leadership traits	Important to the extent that the leader needs to possess traits of flexibility to be able to adapt to different people in different situations, and to different people in the same situation
Environmental circumstances	Not a large consideration in original trait theories	Relies on the environmental situation of employee will and skill, and the situation in which the leader finds themselves
Current relevance	Now acknowledged that traits interact with situational demands and constraints to influence a leader's behaviour. The leader's behaviour interacts with team, and situational variables to influence group performance	Contingency theory is beneficial to organisations because of the potential for learning from specific situations and using these lessons to influence future management of the same or similar situations. Contingency theory may also produce more well-rounded leaders who are able to develop their skills in multiple areas.

3.7 CULTURE AND CLIMATE

- Analyse Schein's concept of organisational culture.
- Consider different types of subcultures in organisations and their implications
- Describe the difference between organisational culture and climate
- Explain how organisational culture and climate can affect organisational performance, as well as inform better performance.

2022 Subject Outline | Stage 2

Organisational culture defined

Organisational culture is the languages, values, attitudes, beliefs, shared expectations and customs of an organisation. Culture is significant and impacts on both the people who work within the organisation, and those who access its services. Culture also affects organisational performance, so it is important for leadership and management staff to understand, monitor and change organisational culture when necessary.

Horst Schulze and Isadore Sharp are the founders and former CEOs of, respectively, The Ritz-Carlton Hotel Company and Four Seasons Hotels and Resorts. These gentlemen are widely credited with pioneering the luxury hotel market, and both are passionate evangelists for extraordinary customer service principles.

"Do unto others as you would have them do unto you."

FOUR SEASONS

Figure 3.7.1: The Golden Rule. Four Seasons Hotels and Resorts.

"We are Ladies and Gentlemen serving Ladies and Gentlemen"

THE RITZ-CARLTON®

Figure 3.7.2: Motto of the Ritz Carlton Hotel.

"Defining and enforcing it's company culture was one of the key strategic decisions made in the formative years of Four Seasons' history. I sat down with our communications experts and wrote down the fundamentals of our culture, which are based on the Golden Rule – to treat others as you wish to be treated. Many companies talk about having a culture, but we knew we had to walk the talk if we expected it to thrive in our hotels. The Golden Rule is simple, memorable, and understandable." *Isadore Sharp, Former CEO, Four Seasons Hotels and Resorts*

One of the mottos of the Ritz Carlton is "*We are Ladies and Gentlemen serving Ladies and Gentlemen.*" There is an equality factor in this statement. Ritz-Carlton employees are not servants or customer service reps. While they are there to serve customers, they are equals with the customers.

Consider this story: An individual was on a business trip giving a keynote speech. They had arrived a few days earlier to enjoy the trip. While out paddling boarding with their partner, they lost their balance and their glasses too.

Later when they returned to the hotel an employee asked the guests about their glasses. The guest had never told anybody about losing their glasses. Nevertheless, the attendant had found the guests glasses and returned them. An employee had gone

snorkelling specifically to find the guests glasses. That's above and beyond normal service and exemplifies the culture of the organisation.

Mark McCrindle and Ashely Fell in their book "Work Wellbeing" say that **culture** is how an organisation does things, the root level that impacts other aspects of the organisation. If a workplace has a negative or unhealthy culture, it can flow out into other aspects of the organisation, including interaction with clients and customers.

When you, as a student, customer, client walk into a school, shopping centre or organisation consider what you notice first? You will notice aspects of the physical layout as well as the people, staff, employees and other clients. All of this information will tell you something about the organisation, including how friendly people will be towards you, what kind of behaviour is expected of you, the standard of dress, how people are communicating. These are all aspects of what can be described as the organisation's **culture.**

According to Schein (1984, 2009, 2010) organisational culture can be analysed on several different levels.

"The only thing of real importance that leaders do is to create and manage culture. If you do not manage culture, it manages you, and you may not even be aware of the extent to which this is happening."

Schein, Edgar H. Organisational culture and leadership / Edgar H. Schein.—3rd ed. 2004 by John Wiley & Sons, Inc

HELPFUL ONLINE RESOURCES

Watch Edgar Schein discuss his model of culture: https://youtu.be/gPqz315HSdg

Think of this model like an iceberg, with the first level visible, but often not easily interpretable.

1. Visible artefacts may include the physical environment, office spaces, dress codes and documents such as strategic plans which illustrate how the organisation contructs its purpose and the behaviorus that characterise it. They include ceremonies, habits, symbols, awards, jargon, habits, art, stories. They are able to seen, and shared.

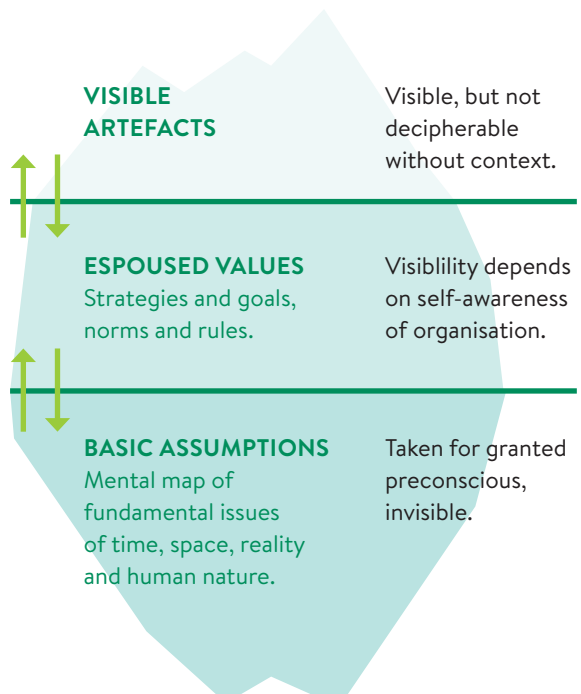


Figure 3.7.3: The three layers of organisational culture.

Think about your school, (or another organsiation you are familiar with.) If you were walking into your school what would your first impressions be with regard to what you can see on the surface? Is the yard clean, or have students left litter on the ground? Is the front office a tidy, friendly place with a warm greeting and place to wait? Are the staff polite and welcoming, or too busy to notice you standing there? How are the staff and students dressed? Is there a uniform, are all students in uniform, are staff dressed neatly, businesslike, or casually? Are there any posters outlining the school values? What annual events are there each year that are a key part of the school culture.

Visible artefact	Type of Artefact	Visible artefact	Type of Artefact
For example – Sports houses	Tradition	Per Aspera ad Astra	School Motto

2. Espoused values are those beliefs or concepts that are specifically endorsed by the organisation. Some examples of a values statement might include: *"Safety is our top priority", "Children are at the centre of everything we do", or "we are people, serving people"*. Organisations may also refer to a lists of values that they stand by in their mission statement, presentation and taglines when promoting their organisation. Commonly these include values such as

- Integrity, Honesty, Fairness, Trustworthiness, Accountability, Learning, Customer Experience.

In contrast, **enacted values** are the values the organisation members perceive to actually be valued by the organisation. We all know people who say they value one thing, but their actions tell a different story. Most of us have also been those people at some point by our behaviours not living up to what we say we value. If there is a perceived difference between espoused and enacted values, this can create cynicism, and create a negative culture within an organisation. For example, if an organisation states that they value safety, but fails to provide enough protective clothing for employees, and maintenance of equipment is haphazard, employees will be critical of the espoused values of the leadership team.

What are the values that are endorsed by your school (or other organisation)

Values						
Value statement						

3. Basic assumptions are unobservable and are at the core of the organisation. It is about the correct way to think, talk, perceive, feel and act, in certain situations. Schein highlights that assumptions are learned and guide people's perceptions, attitudes, and behaviour towards their work, performance and relationships with colleagues in ways that are characteristic of their organisation. They are comprised of unconscious thoughts, beliefs, perceptions, and feelings that are derived from what has been learnt over time to work more or less successfully in the past and has come to guide how things are done in the organisation (Schein, 2004).

Consider schools as an organistion. The underlying basic assumptions associated with school are that education is important. Challenging a school's basic assumption, and attempting to change it to perhaps "entertainment", or "babysitting" would prove difficult, and almost impossible. Basic asssumptions can be very hard to change, and people in organisations may hold tight to these over time because they have more or less worked in the past.

In business, a basic belief or assumption might be "the business should be profitable" or depending on the business "sustainability is core". However, to continue to achieve profitability or to sustain it, the culture may need to change to better manage the more highly educated and skilled workers needed for the new technology that is being introduced.

CASE STUDY: HOW STARBUCKS CULTURE BRINGS ITS STRATEGY TO LIFE

Starbucks' organisational culture is powerful because it is tightly linked to the company's distinctive capabilities. The feel of Starbucks stores isn't created merely by the layout and the décor – it exists because the people behind the counter understand how their work fits into a common purpose and recognize how to accomplish great things together without needing to follow a script.
Features of Starbucks Coffee's Organisational Culture The company describes its organisational culture as a culture of belonging, inclusion and diversity.
In this regard, the main features of Starbucks' organisational culture are:

- Servant Leadership ("employees first")
- Relationship-driven approach
- Collaboration and communication
- Openness
- Inclusion and diversity.

CHECKING FOR UNDERSTANDING

Research a number of well known companies by searching for their purpose, vision and mission statement. Identify the basic assumptions associated with each of these organisations. Identify a behaviour that would challenge, and / or conflict with the organisations basic assumptions.

Organisation	Basic Assumptions	Consider behaviours that would NOT be aligned to these basic assumptions
Coca Cola	Refresh the world and make a difference – now in body and spirit, including the planet and our people.	Using a bottling line that was not sustainable, and was damaging to the environment
Google	To provide access to the world's information in one click – easy access	Developing complex software requiring extensive training.
Apple		
Cotton on		
...		
...		
...		

CHECKING FOR UNDERSTANDING

Analyse Schein's concept of organisational culture using an example of an organisation you are familiar with.

Cognitive Verb: Analyse
Analyse means to examine something methodically and in detail, typically in order to explain and interpret it.

Organisational subcultures

Although most organisations talk about their cultures as being consistent throughout the organisation, this is rarely the case. Subcultures are a common feature of large and established groups. Subcultures form when a group of people within an organisation share a situation, problem, or experience that is unique to them. As an example, consider the Australian Defence Force as being the organisational culture, and the different military branches such as the Army, Airforce and Navy as being organisational subcultures. Each individual subculture has its own unique set of characteristics making it distinguishable from the other subcultures, but together, they still operate as a whole striving for the same overall goals.

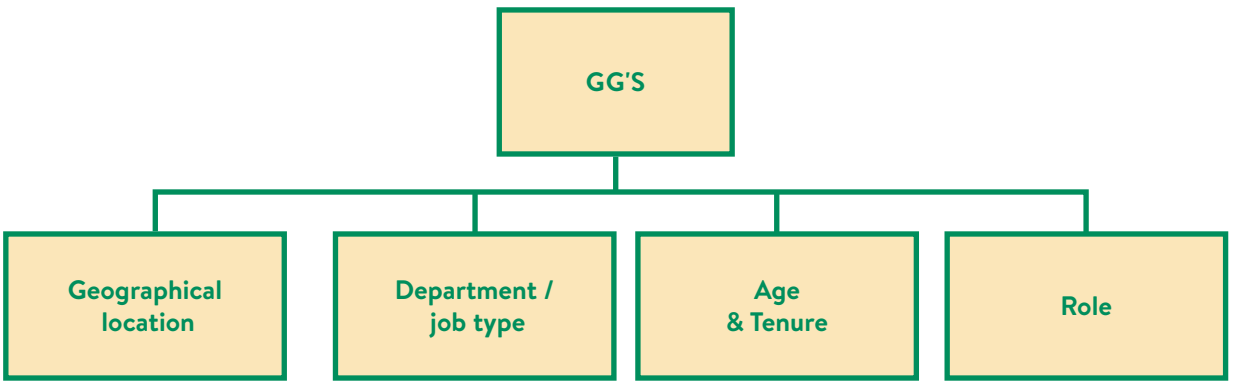
Organisational subcultures can be based on things such as department, job type, ethnicity, age, gender, work groups, union memberships and occupational or professional skills

Figure 3.7.4: The Australian Armed forces are a good example of an organisation where subcultures exist.

Consider a fictitious hospitality organisation (GG's) which incorporates a restaurant, children's play area and bar. GG's is a multi-million dollar company with over one thousand employees across every state in Australia who all believe in the culture that was established by the two founders that: "All people are important, let's make their day". Many different types of employees are responsible for the success of GG's hospitality chain, and in order to make sure that all areas of the business are successful, in all businesses across the country GG's need a diverse group of skilled

workers which include bar and wait staff, children's party hosts, chefs, office staff, receptionists, finance staff and senior leadership members.

Although everyone who works at GG's follows the guidelines of the dominant culture established many years ago, and understands that all people are important, whether that is a small child stuck on a slide, a stressed parent, a group of happy adults drinking in the bar, or the newest employee on the team, many subcultures exist within this organisation that share their own values unique to only their subculture.



Geographical location: When a group of people operate in different physical locations, a subculture often forms among members of each group. The members of this subculture establish unique values that provide them with a sense of identity and help them perform their job.

Department / section: People who work in the same department or section of an organisation also develop their own subculture. The bar staff at GG's, and the children's party hosts are likely to find ways of working together that enhance their teamwork and create the sense of fun required to work well together.

Age, gender & tenure: Subcultures can develop between groups of people depending on how old they are, whether they are women or men or how long they have worked at the organisation together. People tend to relate to those people who they perceive as similar to themselves and have similar views and concerns. Social subcultures can form naturally between these people.

Role: Senior management subculture often have their own offices and usually have meetings that include only members of their subculture and not the other office workers or employees, creating a subculture by virtue of their role in the organisation.

IMPLICATIONS OF ORGANISATIONAL SUBCULTURES

In order to successfully manage an organisation, leaders must be able to create and maintain effective cultures and subcultures. Subcultures have the potential to develop a shared sense of purpose, belonging, and cohesion, but also have the potential to become counter cultures, which are not consistent with the organisational culture. Without a proper understanding of the different levels of cultures that exist within the organisation, it may prove difficult to successfully implement new strategies or plans, particularly if these strategies or plans are inconsistent with the basic beliefs of the culture or subculture.

The existence of subcultures in an organisation may affect organisational effectiveness both positively and negatively. Martin and Siehl (1983) defined three different types of subcultures.

CHECKING FOR UNDERSTANDING

After reading about the different types of subcultures, identify the implications for GG's for each of the scenarios below.

Enhancing subculture: group members share the beliefs and values of the organisation and actually enhance and add to the organisation through their actions in their teams. ADD An example of an enhancing subculture might be a group of senior managers,

Orthogonal subculture: group members recognise and support the core values, but they simultaneously accept non-conflicting values, beliefs and behaviours. ADD An example of an orthoginal culture might be the IT department which has its own separate but not coflicting work beliefs and attitudes,

Counter culture: in a counter culture, group members challenge the organisation's cultural values and their own culture is valued more than that of the whole organisation. Members can be critical of, and undermine the organisation. An example of a counterculture might be a group of young better educated junior managers who believe that the organisation's culture needs to be improved.

	Scenario	Implications
Enhancing subculture	The senior management staff at GG's always greet all staff, patrons and children as if they are the most important person that they will talk to today, and that no question is too big or small. What are the implications of a consistent approach from senior management staff across all sites?	
Orthogonal subculture	Consider GG's children's party host staff who may wear a different uniform, create their own language & terminology, work different schedules, and develop a unique social culture outside of work. What impact might this have, either positive or negative on the culture of the team?	
Counter culture	Identifiy implications of GG's if the bar staff in one of the centres developed a culture that only valued their patrons, and not all patrons. What behaviours might be seen? What impact might this have on employees in other roles?	

HELPFUL ONLINE RESOURCES

For more information about counter cultures and how to respond when these do arise refer to: https://tinyurl.com/4b4jeevj

CHECKING FOR UNDERSTANDING

Consider the different types of subcultures within your school, for example in different year levels, between sporting groups, music groups. What implications do subcultures have for schools?

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Article: Remote Work: Is It a Virtual Threat to Your Culture?

BY JAKE HERWAY AND ADAM HICKMAN, PH.D

Your organisation's culture is one of the most valuable assets at risk during COVID-19.

The common threads and social norms that previously brought your people together aren't the same now that a lot — if not the majority — of employees are working from home and there are new uncertainties around every corner.

Culture can be understood as "how we do things around here." Right now, the ***how*** is changing daily —and in some cases, forever. This brings quantifiable risks to your business, with research showing an immediate impact on employees' sense of belonging and your overall employment brand.

Culture can be understood as "how we do things around here." Right now, the how is changing daily —and in some cases, forever.

For many employees, long-term remote work may be preferred. But while the commute time has decreased, so have the opportunities for critical relationship-building at work. Gallup has found that employees who do not work in the same location as their manager are:

- 10 percentage points less likely to say someone cares about them at work
- 10 points less likely to say they are recognized for their contributions
- five points less likely to feel like their opinions count

And for those individuals with an absolute preference for working in person, the disengaging effects of remote work can be as serious as 17% lower productivity and 24% higher turnover.

Gallup data also show that even without being forced to work virtually, about 60% of employees (virtual or not) cannot fully agree that they know what their company stands for. Employees who work virtually are even more disconnected from core cultural components.

When employees aren't aligned with what their company stands for, it puts their company's reputation on the line. Source: https://tinyurl.com/4zpxe4m8

The difference between organisational culture and climate

Where **organisational climate** explains what and how things are done in an organisation, **organisational culture** explains *why* such things are done

The organisational climate is therefore the sense, feeling or atmosphere people get in the organisation on either a day-to-day basis or just generally.

Figure 3.7.5: A positive organisational culture where people encourage and support one another.

Essentially, the climate is the expressed attitudes and behaviours of the people in the culture, and is seen in the way that people interact, how hard they work with respect to particular aspects of the organisation like safety or customer service so that there can be a safety climate, a customer service climate and these climates may be noticeable in the atmosphere of the organisation when you walk in the door.

"Wow, this place has an amazing energy, people are really friendly and seem to really care about me as a customer."

"Wow it feels like something has happened here. I don't think these people like each other, and they really don't care about their customers at all! The service here is terrible"

That's the climate!

Schien explains: "A climate can be locally created by what leaders do, what circumstances apply, and what environments afford. A culture can evolve only out of mutual experience and shared learning." The climate and culture are connected and rely on each other.

CLIMATE CAN OFTEN CHANGE PRETTY QUICKLY, JUST LIKE THE WEATHER

The climate is often be based on events, people's reactions and interactions between people. If a new boss is much more demanding about workers' safety behaviours than the previous boss, the climate with respect to safety behaviours will change very quickly. If the new boss stays for a long period of time, the changes in work safety behaviours will become entrenched and taken for granted as part of the culture; as just the way workers behave with respect to safety in this organisation. The culture is less dependent on individual events but tends to drive people's interpretation, thinking and perspectives of events that do occur.

"I have always believed that the way you treat your employees is the way they will treat your customers, and that people flourish when they are praised." Sir Richard Branson, founder of Virgin Group.

Discuss this quote from Richard Branson with the class. Think about all the concepts studied throughout this topic including which leadership styles, traits, motivational theories you think Richard Branson demonstrates with this quote?

How culture and climate can affect organisational performance

Organisational culture and climate have been linked to organisational performance and measures have been developed to identify desired improvements in culture or climate.

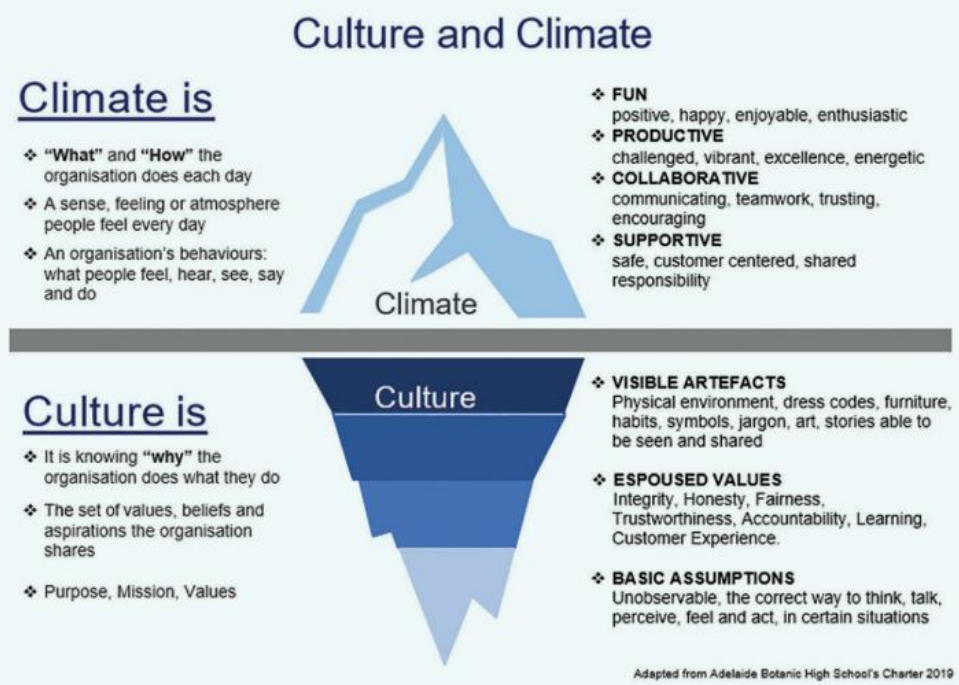


Figure 3.7.6: An overview of the links between culture and climate.

Typically, a strong culture and associated organisational climate or specific climates such as the safety climate or customer service climate can result in higher organisational performance, however not always. A strong culture may lead to a poor organisational climate when:

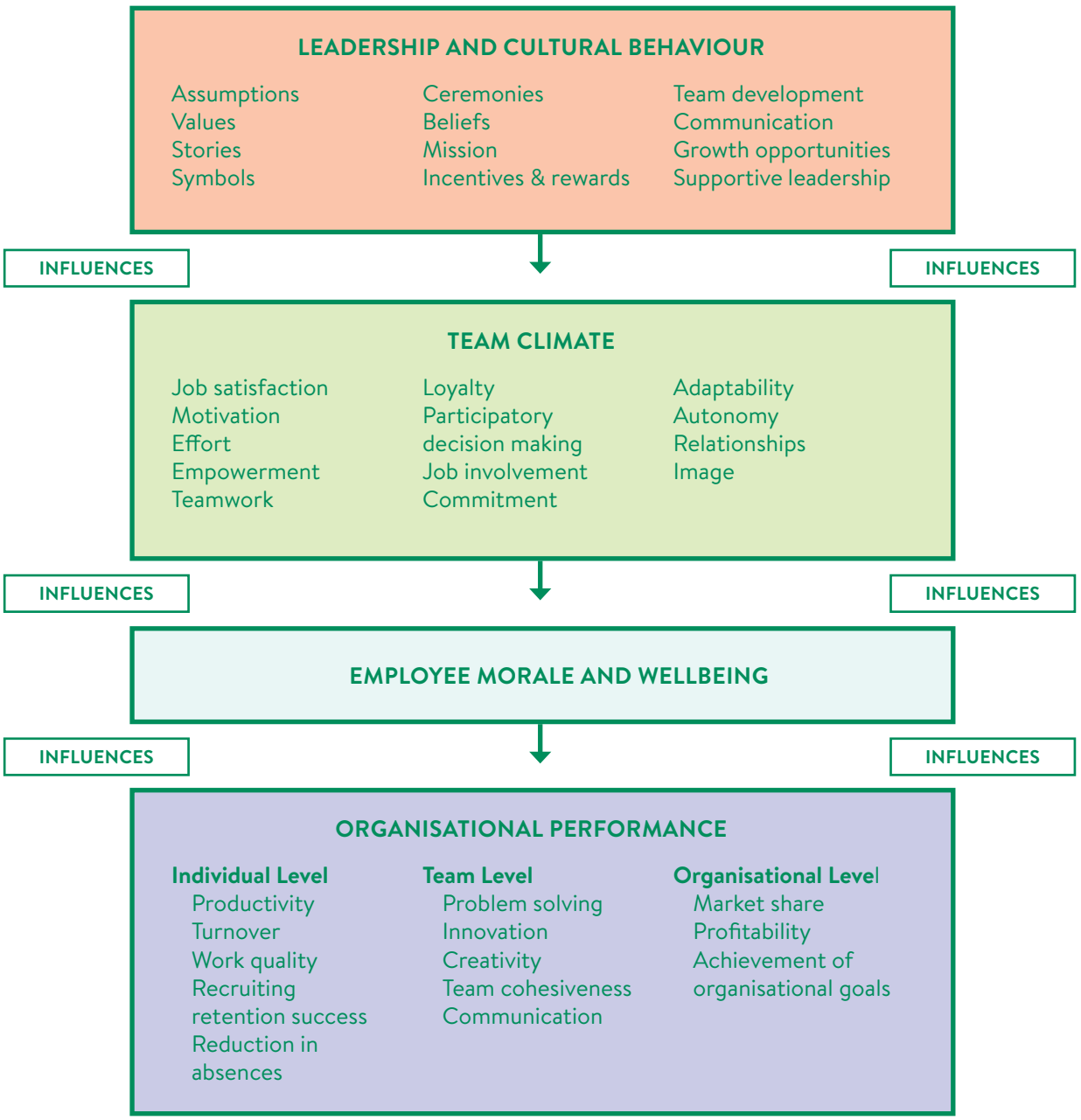
- Culture is no longer aligned to the current organisational environment
- Subcultures have come to dominate, or are supressed by the dominant culture

Strong Culture	Weak Culture
A clear philosophy with regard to how the business is operated.	No clear philosophy exists to guide how the business should operate.
Emphasis on the communication of core values and beliefs of the organisation that are aligned to the internal and external organisational environments.	Core values are not clearly defined or well communicated, or are not aligned to or no longer aligned to the internal and external organisational environments.
The existence of statements, symbols and traditions which explicitly describe the values of the organisation.	Few if any indicators of the values and traditions of the organisation.
A shared sense of values and norms of behaviour exist among members.	Only limited or no evidence of alignment between the way things are done and the espoused values of the organisation.
Attention is paid to the importance of maintaining organisational culture when recruiting new employees, for example selection of new members involves screening to ensure they fit with the culture.	No efforts made to retain organisational culture and a greater need for procedures and policies in order to get to achieve desired results.

THINGS TO NOTE ABOUT A STRONG ORGANISATIONAL CULTURE

A strong organisational culture is well aligned in terms of its values, behaviours and beliefs to its internal and external organisational environments.

- The culture of any organisation affects the performance of that organisation through its impact on individuals and teams at work
- The culture of the organisation impacts directly on climate, which directly infuences performance
- Organisational culture should guide employees to form attitudes and consequently behave in ways that are consistent with its values and beliefs
- Strong corporate cultures are able to facilitate change and innovation
- A common feature of strong performing companies are cultures that encourage leadership, but also empower everyone in the organisation
- Organisations wiith a strong culture and climate positively impact emplyee moral and wellbeing, which in turn impacts organisational performance.



3M Science. Applied to Life.™

CASE STUDY: DEVELOPING A CULTURE OF INNOVATION

One of the most celebrated aspects of 3M's entrepreneurial workplace culture is the 15 percent rule that encourages employees to explore and work together to generate ideas. Product development is driven by the cross-fertilisation of ideas and new technologies shared across the entire company. "Products belong to divisions, but technologies and ideas belong to the company." 3M has developed six principles of innovation to support this culture.

Build a Vision Effective leadership means that employees understand the importance of achieving 3M's vision. Innovation is a cornerstone of 3M's self-image and the company prides itself on a culture of success stories by celebrating the achievement of its people. The importance of innovation is communicated and reinforced which replicates success. Foresight It is vital to, "...anticipate the structure of the future before it arrives." 3M can solve articulated needs, whereby the customer knows and communicates what they need; as well as unarticulated needs, whereby 3M proactively provides a solution for a problem that the customers don't yet realise they have! Going beyond 3M sets goals to challenge their people to strive for significant improvements.

One objective is to generate 30 percent of all sales from new products introduced in the past four years. However, 3M's commitment to stretching goals is demonstrated through an additional objective; to cut the time for new products to reach the market by a further 50 percent.

Empowerment Back in the 1940s McKnight said, "Hire good people and leave them alone", and this philosophy is still paramount. 3M's management believes that employees need freedom to achieve their goals. Empowered employees are given both responsibility and accountability for key tasks. The company trusts employees, provides direction, support and resources, with minimal interference. This collaborative management style is effective when dealing with intrinsically motivated and highly qualified professionals.

Communication 3M feels that successful people need to work with others. Management communicates the vision, employees communicate opportunities to management – the dialogue extends into multiple channels throughout the organisation. 3M use technical forums, trade fairs and conferences to encourage networking and ideas sharing.

Staff use part of their 15 percent self-managed time to help people from other areas. Networking occurs internally across platforms and externally through customer feedback and joint ventures. Staff can be transferred locally and globally and apply their particular expertise on projects. This adds value by sharing both expertise and the experience of 3M's diverse global culture. Rewards and recognition 3M believe that the most effective type of reward is recognition through technical and corporate awards and promotions.

3M's celebrated *Innovator Award* is given to individuals who use their 15 percent self-directed work time to develop a new product or technology. The highly prestigious *Circle of Technical Excellence* honours extra effort, motivation and creativity.

3M have a dual career structure that maintains parity between technical and corporate staff. Outstanding technical employees can be promoted into positions such as Corporate Scientist or they can move into management with the same opportunities for salary, benefits and other privileges. This encourages top performers to stay with the company. Source: **https://tinyurl.com/yhu76ysz**

CHECKING FOR UNDERSTANDING

Describe the organisation's culture, providing at least one example of each level of culture (e.g. visible artefacts, espoused values and basic assumptions).

Identify elements of the organisational climate that might be visible to clients and employees of 3M.

Describe the affect of 3M's culture and climate on staff and organisational performance and how it informs better performance.

The Likert style questionnaire is an example of a workplace Culture survey.
Option 1: Complete this survey with your workplace or school in mind.
Option 2: Ask a working parent / friend to complete the survey without identifying them or their organisation.
Compare the different types of work and consider whether there are any consistent results with respect to how well the culture is aligned with its tasks and its workers.

Please choose the most appropriate answer options

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I receive constructive feedback from my manager					
I receive timely feedback from my peers					
My manager recognizes my efforts					
Employee evaluation is fair in this organisation					
My team is encouraging during participation in discussions					
There is a strong feeling of teamwork in this organisation					
My team members contribute to my success					
My team members are receptive to the suggestions I make					
I see a positive career growth in this organisation					
I am provided with training if any new system/software/tool is introduced					
My manager provides positive feedback					
My manager is interested in my progress					
Organisation is supportive of a positive work-life balance					
The amount of work allotted to individuals is reasonable					
My work doesn't cause any unwanted tension to me					
I am able to give enough time to my family					
My manager coordinates cordially with me					
I am satisfied with the organisation's policies on rewards and recognition					
Favouritism is not an issue in this organisation					
Leadership of this organisation treats all employees equally					
Employees are effectively communicated about changes in company policies					
Communication here is a two-way process					
Management here operates with utmost transparency					

Topic 4:

Social Influence

Humans are social beings. The behaviour of individuals and groups influences, and is influenced, by others.

The study of social influence examines the impact of the presence or absence of other people on behaviour: obedience and conformity; attitude formation and attitude change; prejudice and persuasion and social media. The effects of social media use are still being researched, with some results being positive and others negative.

4.1 OBEDIENCE

Obedience is a form of social influence where an individual responds to a direct order, usually from an authority figure. Various factors influence obedience, including proximity to the authority figure, prestige of the authority figure, and deindividuation.

- Describe three different factors that influence obedience.
- Milgram's experiments on obedience provided important insight into human behaviour, as did Zimbardo's prison experiment.
- Explain why both experiments were heavily criticised for ethical reasons.
- Explain how an experimental investigation is different from other investigations.
- Describe some advantages and disadvantages of the experimental design.

2022 Subject Outline | Stage 2

Obedience is a form of social influence that involves performing an action under the orders of an authority figure. It differs from **compliance**, which involves changing your behaviour at the request of another person and **conformity** which involves altering your behaviour to go along with the rest of the group. Examples include a child putting their toys away or turning off their technology when asked to by a parent, and a soldier following orders of their superior officer when on duty.

Much of the research on obedience to authority came from the need to understand the situational conditions whereby people would suspend their own moral judgements to carry out an order from someone they considered to be an authority figure.

The most famous psychological study of obedience is that of Milgram (1963). Milgram wanted to understand the reasons why so many German people obeyed Hitler in his orders to exterminate the Jews during the 1930s and 1940s. He wanted to know whether Germans were a particularly obedient nation or whether all of us are capable of this kind of obedience. His research was published only 6 months after the execution of Adolph Eichmann for his part in the Holocaust. At his trial he claimed that he was 'only obeying orders'.

KEY STUDY: INVESTIGATING OBEDIENCE

Milgram (1963)

AIM

To see how obedient people would be in a situation where obeying orders would mean breaking their moral code and hurting an innocent person.

PROCEDURE

Forty American men aged 20-50 were recruited by advertisement to participate in a controlled experiment. They were told they were taking part in a 'learning' experiment about the effects of punishment on learning and introduced to 'Mr Wallace', apparently a fellow participant but actually a confederate working for Milgram. Participants drew straws to determine their role of either learner or teacher, however, Milgram ensured that the real

HELPFUL ONLINE RESOURCES

Milgram's experiment on Obedience
Original video footage:
https://tinyurl.com/545f6933

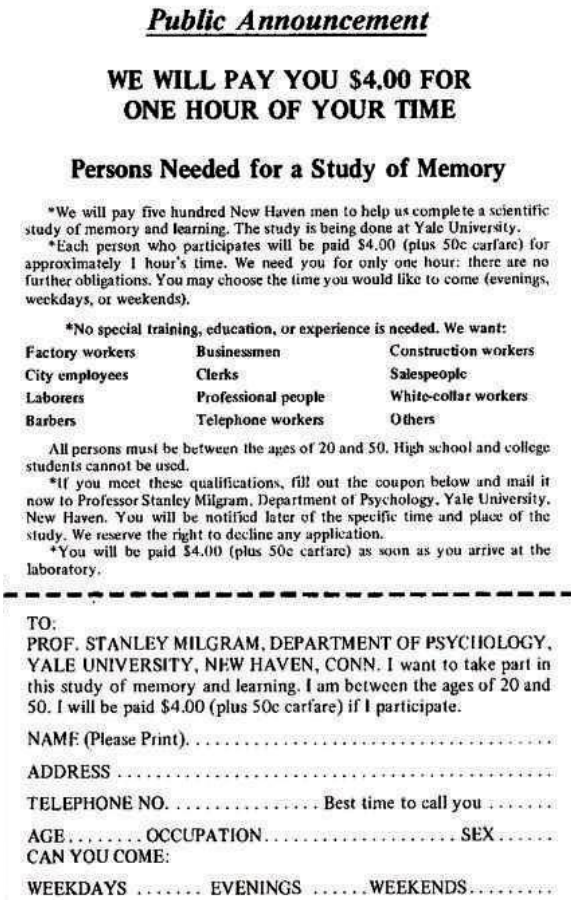
Figure 4.1.1 Mr Wallace (a confederate of Milgram's) is connected to an electric shock generator.

participant was always the teacher, and the confederate was the learner.

Mr Wallace was then strapped into a chair behind a screen and connected to a shock generator. The participant tested him on his memory for word pairs. The experimenter (who wore a grey lab coat) ordered the participant playing the role of the teacher, to flick a switch to give Mr Wallace a shock whenever he got an answer wrong or in the event where he did not provide an answer. The shocks increased by 15 volts each time, up to a maximum of 450 volts. Unknown to the participants, there were no real shocks. As the level of

Figure 4.1.2 The shock generator used by the participants in Milgram's experiment.

shocks increased, Mr Wallace cried out and begged to be released. At 300 volts he went silent apart from occasional weak knocking on the screen.



Public Announcement

WE WILL PAY YOU $4.00 FOR ONE HOUR OF YOUR TIME

Persons Needed for a Study of Memory

*We will pay five hundred New Haven men to help us complete a scientific study of memory and learning. The study is being done at Yale University.

*Each person who participates will be paid $4.00 (plus 50c carfare) for approximately 1 hour's time. We need you for only one hour: there are no further obligations. You may choose the time you would like to come (evenings, weekdays, or weekends).

*No special training, education, or experience is needed. We want:

Factory workers	Businessmen	Construction workers
City employees	Clerks	Salespeople
Laborers	Professional people	White-collar workers
Barbers	Telephone workers	Others

All persons must be between the ages of 20 and 50. High school and college students cannot be used.

*If you meet these qualifications, fill out the coupon below and mail it now to Professor Stanley Milgram, Department of Psychology, Yale University, New Haven. You will be notified later of the specific time and place of the study. We reserve the right to decline any application.

*You will be paid $4.00 (plus 50c carfare) as soon as you arrive at the laboratory.

TO:
PROF. STANLEY MILGRAM, DEPARTMENT OF PSYCHOLOGY, YALE UNIVERSITY, NEW HAVEN, CONN. I want to take part in this study of memory and learning. I am between the ages of 20 and 50. I will be paid $4.00 (plus 50c carfare) if I participate.

NAME (Please Print). . . . . .

ADDRESS . . . . . .

TELEPHONE NO. . . . . Best time to call you . . . . . .

AGE . . . . . OCCUPATION . . . . . SEX . . . . . .
CAN YOU COME:

WEEKDAYS . . . . . EVENINGS . . . . . WEEKENDS . . . . . .

When participants protested at having to continue shocking him, the experimenter gave them a series of verbal prods, such as ''Please continue' or 'You have no choice, you must go on, the experiment requires you to continue''. The percentage of participants who gave different voltages was measured and the reactions of participants were observed.

RESULTS

Sixty-five percent (two-thirds) of participants (i.e., teachers) continued to the highest level of 450 volts. All the participants continued to 300 volts. Interestingly, prior to the experiment being conducted, Milgram asked a group of Psychology students, psychiatrists and colleagues to predict participant obedience levels. The consensus was that most participants would not obey and therefore only a few would go to 150 volts with approximately 4% predicted to keep going until 300 volts. They did not expect anyone to administer the potential lethal level of 450 volts.

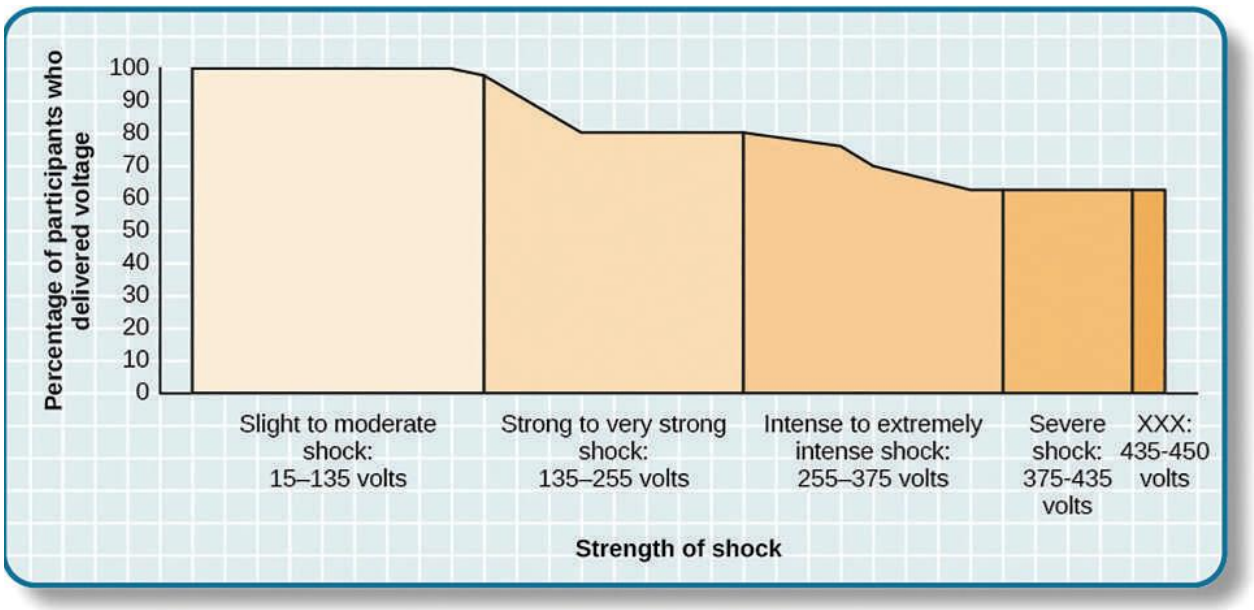


Figure 4.1.3 The results of Milgram's experiment showing the percentage of participants prepared to provide severe shocks under instruction.

CONCLUSION

Milgram concluded that people have a strong tendency to obey orders even when these go against their morals. This effect is so powerful that most people will injure or kill a stranger when ordered to by a figure in authority. This means that the many crimes against humanity may be the outcome of **situational** factors rather than **dispositional** factors. It appears that an individual's capacity for making independent decisions is suspended when they find themselves in a subordinate position within a powerful social hierarchy (in this case the relationship with the experimenter).

Dispositional factors are often referred as internal factors and include personal qualities that we have little control over. Such factors may include, but are not limited to, genetic predispositions, personality traits, intelligence and levels of self esteem.

Situational factors include those elements in our environment that can influence our behaviour and include work, school, and the people around you.

Factors that influence obedience

Obedience is a form of social influence where an individual responds to a direct order, usually from an authority figure. Various factors influence obedience, including proximity to the authority figure, prestige of the authority figure, and deindividuation.

Milgram replicated his experiment under various conditions where he changed the IV to allow him to identify which factors affected obedience (the DV). He found the following factors impacted Obedience levels.

Status of Location	Personal Responsibility
• The orders were given in an important location (Yale University) – when Milgram's study was conducted in a run-down office in the city, obedience levels dropped. This suggests that prestige increases obedience.	• When there is less personal responsibility, obedience increases. • When participants could instruct an assistant to press the switches, 95% (compared to 65% in the original study) shocked to the maximum 450 volts. • This relates to Milgram's Agency Theory.
Legitimacy of the Authority Figure	**Prestige or Status of the Authority Figure**
• People tend to obey orders from other people if they recognise their authority as morally right and/or legally based. • This response to legitimate authority is learned in a variety of situations, for example in the family, school and workplace.	• Milgram's experimenter wore a laboratory coat (a symbol of scientific expertise) which gave him high status. • But when the experimenter dressed in everyday clothes, obedience was very low. • The **uniform** of the authority figure can give them status. • Higher levels of perceived prestige and closer proximity to the authority figure are associated with increased obedience.
Peer Support	**Proximity to the Authority Figure**
• Peer support – if a person has the social support of their friend(s) then obedience is less likely. • Also, the presence of others who are seen to disobey the authority figure reduces the level of obedience. This happened in Milgram's experiment when there was a "disobedient model".	• Authority figure distant: It is easier to resist the orders from an authority figure if they are not close by. When the experimenter instructed and prompted the teacher by telephone from another room, obedience fell to 20.5%. • When the authority figure is close by, then obedience is more likely.

Deindividuation

"De-individuation" is exactly what the word sounds like: losing your individuality, your ability to think and make decisions for yourself, and instead going along with the group's behaviour. Instead of acting as individuals, people experiencing deindividuation become lost in a group. This often means that they will go along with whatever the group is doing, whether it be rioting and looting, as is seen so often when there is civil unrest and protests, or engaging in cyberbullying, whereby individuals like, or comment on a post 'because everyone else is doing it'. The psychology of this behaviour may be because individuals experience a sense of anonymity in a group. The larger the group, the higher the incidence of deindividuation. This occurs when people are moved by the group experience to do things that, without the group for support, they would not normally do. Deindividuation and lack of expertise in the participants were also associated with higher levels of obedience.

Ethical issues associated with Milgram's research

Milgram's experiments on obedience provided important insight into human behaviour, however, they have been highly criticised regarding what is considered to be questionable ethics throughout the study.

Milgram conducted a follow-up questionnaire where data indicated that the vast majority of participants were not only glad they had participated in the study but said they had learned something important from their participation and believed that psychologists should conduct more studies of this type in the future. Nonetheless, current standards for the ethical treatment of participants clearly place Milgram's studies out of bounds.

Psychological harm and distress

- Critics argued that Milgram's study placed his participants under significant emotional strain, causing psychological damage to them that might not be justified. Several participants had marks on their hands from digging their nails in discomfort, others were visably sweating and trembling, with 3 participants having been recorded as having seizures.

Right to withdraw

- Milgram informed his participants at the beginning of the study that they could withdraw at any stage and that it would not compromise the financial incentive that was offered to participate. However, during the experiment when participants indicated that they did not wish to continue in their role, the researcher responded with the following prompts: 1- Please continue, 2- The research requires you to continue, 3- It is essential that you continue, 4 - You must go on.

Deception

- Milgram informed his participants that they each had a chance of being the teacher or learner, however, Milgram had organised a selecion process which guaranteed the true participant was always the teacher.
- Milgram stated that the aim of the study was regarding the role of punishment and learning, rather than Obedience to authority.
- Participants were made to believe that they were administering electric shocks to another person.

INDIVIDUAL DIFFERENCES

Milgram found that although women consistently reported more stress than men, women complied fully with the experimenter's commands 65% of the time, a rate identical with men as participants. This was based on replications of the research worldwide which had male and female participants. All except for 1 found no male-female differences.

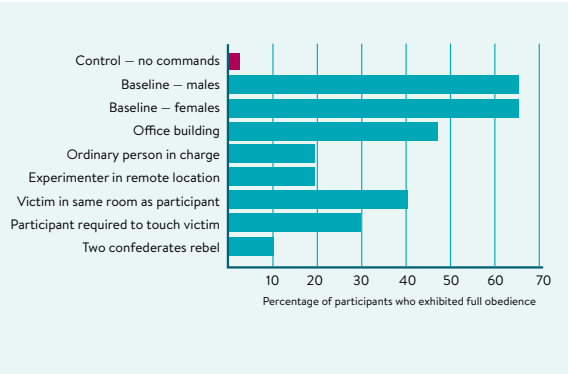


Figure 4.1.4 Milgram varied many factors in his research program to identify factors that influence obedience.

CULTURAL DIFFERENCES

It is important to note that various replications of Milgram's experiment have identified cultural differences in obedience. You can read more about cross cultural findings here: **https://tinyurl.com/d6fht64z**. The table below shows recorded obedience rates in cross-cultural replications of Milgram's study supporting the notion that culture plays a significant role in our behaviour, particularly when comparing between individualist and collectivist cultures.

Figure 4.1.5 What can you conclude about the study conducted in Australia in the table below?

Table: 1 A cross-cultural comparison of obedience rates in replications of Milgram's standard conditions (adapted from Blass, 2012).

Foreign studies		
Authors	**Country rate in %**	**Obedience**
Ancona and Pereyson (1968)	Italy	85
Edwards et al. (1969)	South Africa	87.5
Mantell (1971)	Germany	85
Kilham and Mann (1974)	Australia	28
Shanab and Yahya (1977)	Jordan	73
Shanab and Yahya (1978)	Jordan	62.5
Miranda et al. (1981)	Spain	50
Gupta (1983) (Average of Remote and 3 Voice-Feedback conditions)	India	42.5
Schurz (1985)	Austria	80

U.S. mean obedience rate= 60.94%; Foreign mean obedience= 65.94%

POSSIBLE TEACHING OPPORTUNITIES — CLASS DISCUSSION

Could it be argued based on Milgram's findings that it is not necessarily evil people carrying out inhumane acts towards others, but ordinary people who are just obeying orders?

Perhaps situational factors rather than dispositional factors cause ordinary people to conduct inhumane acts and crimes against humanity. The infamous Stanford Prison Experiment conducted by Zimbardo explores this notion.

Stanford Prison experiment

The Stanford Prison experiment, whilst hugely controversial, has been the inspiration for two feature-length films.

Figure 4.1.6 Philip Zimbardo conducted research at Californian University Stanford's Psychology department to explore the psychological effects of perceived power, within the setting of a fake prison.

BACKGROUND

Zimbardo was curious if brutality reported amongst prison guards was due to situational (environmental) rather than dispositional factors (psychological). In 1971, Zimbardo and his colleagues devised a study which enabled them to study behaviour in prison situations. Zimbardo converted a basement of the Stanford University psychology building into a mock prison.

He advertised, asking for volunteers to participate in a study of the psychological effects of prison life. The 75 applicants who answered the ad were given diagnostic interviews and personality tests to eliminate candidates with psychological problems, medical disabilities, or a history of crime or drug abuse. He selected 24 men judged to be the most physically and mentally stable, and the least likely to engage in antisocial behaviour. The participants did not know each other prior to the study and were paid $15 per day to take part in the experiment. Participants were allocated to the role of prisoner or guard based on their interview during the selection process.

PROCEDURE

Participants were unexpectedly arrested at their homes by real policemen, handcuffed and taken to a real police station where they had their fingerprints taken, were photographed, and booked. At this stage, the participants did not know they had been selected for the study. Prisoners were blindfolded and transported to the basement of Stanford prison which had been transformed into a mock prison, where they would stay for a period of 14 days. Upon arrival, prisoners were stripped naked, deloused and given their new clothing which consisted of a beige smock, a nylon cap to wear over their hair, a number which would replace their name and a lock and chain around one ankle.

Guards wore a khaki uniform and reflective sunglasses to prevent prisoners from seeing their eyes. Prisoners were exposed to a range of humiliating and degrading acts from the guards along with physical punishment if they were deemed to be stepping out of line. Over the course of the

next 6 days, the prisoners became **dehumanised**. Guards had been ordered to do whatever they felt was necessary to maintain order within the prison, with the exclusion of physical violence. Zimbardo informed both guards and prisoners that any act of violence would terminate the study and all participants would be exempt from the payment agreed for their participation in the study.

Deindividuation quickly occurred with both guards and prisoners becoming so immersed in their roles they lost their sense of self, alongside the reality that they were in fact participants in a psychological research study. Less than 36 hours into the experiment, Prisoner #8612 began suffering from acute emotional disturbance, disorganized thinking, uncontrollable crying, and rage; yet he was not released from the experiment. Prisoner #8612 demanded a meeting with the guards: they told him he was weak and suggested that he was unable to leave and instead suggested he could take on the role of an informant. It was after the meeting that his level of distress escalated, and Psychologists realised they needed to release him from the experiment. Despite this, the experiment continued with no modification to the prisoner's treatment. After 6 days of severe emotional distress of several prisoners and excessive brutality from the guards, the experiment came to an end. This was against the pleas of Zimbardo to allow the study to continue. Christina Maslach, a previous PHD student raised concerns after her visit regarding the levels of abuse and lack of ethical and moral responsibility of the researchers and insisted the study come to an end.

Zimbardo (2008) later noted, "It wasn't until much later that I realized how far into my prison role I was at that point — that I was thinking like a prison superintendent rather than a research psychologist." (2021).

CONCLUSIONS

Zimbardo concluded that situational, rather than dispositional factors play a significant role in the behaviours exhibited at any given time, particularly whre strong stereotypes exist.

POSSIBLE TEACHING OPPORTUNITIES- EXTENDED RESPONSE QUESTION

Watch The Stanford Prison Experiment, a 2015 docudrama based on Philip Zimbardo's prison experiment. *Available on Clickview.*

With reference to either Milgram or Zimbardo's' research, discuss explanations of conformity or obedience.

HELPFUL ONLINE RESOURCES

The Stanford Prison Experiment
Original audio footage from the Stanford Prison Experiment:
https://tinyurl.com/c48p8548

Use the following link to access more comprehensive information about the procedure and ethical issues of The Stanford Prison Experiment:
https://tinyurl.com/djuu52mh

Ethical issues associated with Zimbardo's research

CHECKING FOR UNDERSTANDING

Use the ethical guidelines from the SIS chapter pages 492 to complete the table below based on the study by Zimbardo et al.

Ethical Issue	Criticisms	Way of overcoming this issue
Deception		
Informed Consent		

Protection from harm		
Right to withdraw		
Debriefing		
Privacy		

Forty years forward and very few researchers have been able to replicate the study with a more positive outcome, despite making modifications to enhance the ethics. However, one recent research, such as the BBC Prison Experiment: https://tinyurl.com/47yp2a2s, has shown how the same situation can lead to cooperative behaviour rather than tyranny, depending on whether and how different people identify with each other.

CRITICAL ANALYSIS

Zimbardo's research has come under further criticism regarding the design of the research. Apply your knowledge to critically analyse this research through each of the lens outlined below. A critical analysis requires students to identify each of the issues associated with the research by exploring the strengths and weaknesses, then suggesting improvements to eliminate the issues.

Resources for compiling your critical analysis
https://tinyurl.com/pj2hj8t2
https://tinyurl.com/hateux2x
https://tinyurl.com/57bp9pzc

Demand characteristics

Reliability

External validity

Low ecological validity

How could this study be replicated to produce a more ethical study which also counterbalances the criticism above?

Many psychologists have argued that the guards in the Stanford Prison experiment had become deindividuated and the use of sunglasses contributed to their sense of anonymity. Some argued that Zimbardo himself lost his sense of self and internalised the role of prison superintendent rather than maintaining his position as a researcher.

On the afternoon of January 6th, 2021, President Donald Trump told his supporters that he would lead them on a march to the Capitol building in a show of support for lawmakers urging to stop the certification of electoral votes (AP, 2021). Capitol Police began evacuation protocols as the demonstration morphed from a protest into a riot before culminating in a breach of the Capitol (Leatherby et al., 2021). While President Trump tweeted that the rioters needed to respect the police and remain peaceful, he stopped short of explicitly condemning the actions of his supporters.

As the insurrection progressed, the rioters' behaviour became increasingly destructive and disrespectful towards the establishment, with protestors calling for violence against those that they perceived to be enemies of President Trump, including Vice President Mike Pence (Pengelly, 2021). It took tear gas and percussion grenades to clear the insurrectionists from the building. After the Capitol was secured, it was reported that one person was shot and killed inside the building. Altogether, five people, including one police officer, lost their lives.

The most difficult thing for some of us to understand is how seemingly normal individuals could be led to commit one of the most egregious acts against our country in U.S. history. The psychological principal of deindividuation can help give us a frame in which to examine the kind of behaviour that took place. Deindividuation occurs most often when one finds themselves in a setting where they feel they cannot be easily identified, such as when one is in a group of like-minded individuals. When a person is deindividuated, they are in a state of decreased self-evaluation,

decreased recognition of social norms, and more susceptible to the outside influence of the group (Silke, 2003).

Deindividuation can lead people to engage in shockingly deviant behaviour, but there are three main keys that need to be in play to instigate the most severe effect: group contagion, anonymity, and arousal (Diener, 1977). Group contagion is when behaviour is pulsed between group members witnessing each other commit uninhibited acts and exacerbating them as they travel between the individuals. Anonymity is when the group members are hidden behind a layer of either physical disguises, such as masks, or altered responsibility. Finally, arousal is the catalyst that drives the group to act in whatever way the emotion provoked by the arousal suggests. We can now use our understanding of deindividuation to examine the insurrectionists' behaviour at the Capitol.

Throughout his speech, President Trump posed himself and his supporters as victims of injustice, which likely stoked anger and frustration among his supporters (AP, 2021). Trump initiated the arousal aspect of deindividuation here by insinuating to the crowd that they needed to act quickly and dramatically in order to stop the corruption of our democracy. Group contagion spread amongst the crowd as they drew closer to the breaching of the Capitol; we could observe the group's pro-Trump chants crescendo into a roar that further triggered the crowd into an increasingly agitated state. As members of the crowd saw others pushing through barriers, they likely felt emboldened to act out themselves. Once the first small group of rioters breached the Capitol, it was not long before the rest followed suit. Finally, the crowd itself served as a source of anonymity. Many rioters may have felt that they were just one person in the crowd, difficult or impossible to identify behind physical masks and the mask of President Trump's platform.

Figure 4.1.7 2021: Demonstration formed into a riot at the US Capitol building. A modern day example of deindividuation.

The right mixture of specific factors in a crowd can induce any given individual to behave in ways that they would not normally act on their own (Diener, 1977). Combating or minimizing the effects of deindividuation can be difficult if someone is in a crowd of their peers, making deviant or dangerous actions appear reasonable. However, such actions are not inevitable when crowds of like-minded individuals gather.

One way to combat potential negative impacts of deindividuation is to consciously maintain personal awareness. This means that you can still scrutinize your own behaviour according to your values and beliefs. Doing this can reduce the potential for deviant behaviour such as what was seen at the Capitol. Additionally, awareness that you are part of the greater society, and anticipation of your actions will impact others, may also reduce the propensity to act out in a crowd. Lastly, being aware of attempts to corrupt your emotions can be challenging, especially when they come from a voice that you agree with ideologically. However, it can be an invaluable asset for reducing the effects of deindividuation.

https://tinyurl.com/2mzbhnuu

SCIENCE INQUIRY SKILLS
CHECKING FOR UNDERSTANDING

Experimental investigations have been used to study obedience. The experimenter was able to manipulate an independent variable and observe the changes in the dependent variable.

For a thorough understanding of different experimental designs, complete the questions in the Science Inquiry Skills Chapter on pages: 445

Explain why the investigations by both Milgram and Zimbardo were experiments.

..

..

..

For both Milgram's and Zimbardo's experiments, identify the following:

	Milgram's Obedience to Authority Research	Zimbardo's Stamford Prison experiment
Independent Variable		
Dependent Variable		
Hypothesis		

Method (Brief explanation)		
Type of data collected		
Conclusion		
Why was this experiment criticised for ethical reasons?		

Explain how an experimental investigation is different from observational and qualitative investigations.

Describe two advantages and disadvantages of the experimental design.

Advantages

1.

2.

Disadvantages

1.

2.

How were Milgram and Zimbardo's investigations:

Similar?

Different?

4.2 CONFORMITY

- Three main types of conformity are generally recognised:
  - compliance
  - internalisation
  - identification.
- Explain how normative social influence, informational social infuence and individual characteristics affect conformity.
- Explain how observational designs differ from experimental designs (refer to SIS chapter)
- Describe some advantages and disadvantages of the observational design (refer to SIS chapter)

Minority communities can be subject to ethnocentric bias when the investigator collected data by observation of selected participants.

- Describe the social, cultural, and ethical impact on Australian Aboriginal people.

2022 Subject Outline | Stage 2

Conformity is one form of social influence where individuals yield to group pressures. It is affected by a number of different factors. Conformity can be defined as 'a change in behaviour or belief as a result of real or imagined group pressure' (Myers, 1999).

Figure 4.2.1: How many times has you mum asked, "If all your friends jumped off a cliff, would you?"

If everyone was jumping off a bridge, would you jump too? Social psychology research suggests you might. Social conformity is a powerful force. So much so that social psychologists generally endorse the idea that people like to stand out, but only in a good way. We want to be recognised for our unique, desirable qualities or achievements, but we don't want to be caught wearing clothing that has gone out of style or being ignorant of the latest cultural trends. We want to be seen as individuals, except in ways that would make us seem weird and different to others. Unsurprisingly, this desire to fit in appears to drive conformity.

Types of conformity

Kelman (1958) proposed three **types of Conformity**:
Compliance: is when we publicly change our behaviour to be more like the majority, but we do not privately change our minds about what we believe or how we would like to act. This is the shallowest level of conformity. This is usually a short-term change and might be as simple as eating broccoli when you go to Grandma's house, because it is expected.

Figure 4.2.2: Compliance – Do you eat food at other people's houses to be compliant?

HELPFUL ONLINE RESOURCES

Conformity in action
It's old but it is a great and humorous example of conformity in everyday life:
https://tinyurl.com/74sj2st5

Identification: is when we take on the views of individuals or groups we admire. This is the middle level of conformity and is where a person changes their public behaviour and the private beliefs, but only while they are in the presence of the group. This results in a short-term change. For example, a person may drink alcohol when they are in the presence of their friends at social events, however, when they are at home, or in family social situations they prefer not to drink alcohol. Identification takes place when we are in the presence of a particular group.

Figure 4.2.3: Identification – People often drink alcohol in the presence of certain groups of friends

Internalisation: is the deepest level of conformity and is a true change of beliefs. Here a person changes their public behaviour to match those of the group. Others have convinced us their beliefs are right, so our behaviour adjusts accordingly to match these beliefs. A person may be influenced by their social group, or partner to become a vegetarian, so stops eating meat, replacing meat products with vegetarian alternatives. They continue eating vegetarian whether in the presence of their friends or not, as they have 'internalised' this belief as a healthier, and preferred diet option.

Figure 4.2.4: Internalisation – Becoming vegetarian after changing your beliefs.

	Change in public behaviour?	Change in private belief?	Short term/ long term
Compliance	Yes	No	Short-term
Identification	Yes	Yes (Only in the presence of the majority)	Short-term
Internalisation	Yes	Yes	Long-term

Table 4.2.1: A comparison of the three types of conformity.

CHECKING FOR UNDERSTANDING

Here are some real-life examples of conformity. For each one, identify the different type(s) of conformity that are happening and explain your answers.

Sam has just started work in an office. On the second day, Sam's colleagues discussed asylum seekers coming to Australia stating they received favourable treatment from the government and that this should stop. Sam doesn't agree with this view, but when asked what he thought, Sam agreed.

Sam - Type of conformity: .....
Explain:

.....

.....

Alex started university several months ago and has made friends with a group of students who are passionate about animal rights. In the beginning, Alex didn't have very strong opinions on animal research but over the past few months Alex has become very much against it. Alex has now joined a campaign against animal research and has started attending public demonstrations with friends.

Alex - Type of conformity: .....
Explain:

.....

.....

Jan and Norah have just finished their first year at university where they lived in a house with six other students. All the other students were very health conscious and ate only organic food. Jan listened to their point of view and now she also eats only organic food.
Norah was happy to eat organic food while in the house, but when she went home for the holidays, she ate whatever her mother cooked. Both girls conformed, but for different reasons.

Jan - Type of conformity: .....
Explain:

.....

.....

Norah - Type of conformity: .....
Explain:

.....

.....

Why people conform

In addition to the three types of conformity (compliance, identification and internalisation) there are also two explanations about why people conform, known as: normative social influence and informational social influence.

Normative social influence (NSI) is when a person conforms to be accepted or belong to a group.

Here a person conforms because it is socially rewarding, or to avoid social punishment, for example, being ridiculed for not 'fitting in'. Normative social influence is usually associated with compliance and identification. With compliance, people change their public behaviour but not their private beliefs; with identification people change their public behaviour and their private beliefs, but only in the presence of the group. Therefore, these types of social influences are short-term examples, usually the result of a desire to fit in.

Informational social influence (ISI) is when a person conforms to gain knowledge, or because they believe that someone else is 'right'.

Informational social influence is usually associated with internalisation, where a person changes both their public behaviour and their private beliefs, on a long-term basis. This semi-permanent change in behaviour and belief is the result of a person adopting a new belief system, because they genuinely believe that their new beliefs are 'right'. It can also occur in ambiguous or unfamiliar situations. See Figure 4.2.5.

For example, if a person changes their political ideology from Conservative to Liberal, then they have internalised these new beliefs on a semi-permanent basis and believe that voting Liberal is 'right'.

Figure 4.2.5: Do you wait for others to pick up their knife and fork before selecting yours? This is an example of ISI at play in an ambiguous or unfamiliar situation.

JENNESS' BEAN JAR EXPERIMENT

Jenness (1932) carried out a study into conformity – in his experiment participants were asked to estimate how many beans were in a jar. Each participant had to make an individual estimate, and then make an estimate as part of the group.

He found that when the task was carried out in a social group, the participants would report estimates of roughly the same value (even though they had previously reported quite different estimates as individuals).

The study was successful in showing the influence of others, thus proving that an individual's behaviour and beliefs can be influenced by a group. Additionally, this is likely to be an example of informational social influence as participants would be uncertain about the actual number of beans in the jar.

Figure 4.2.6: How many beans are in this jar?

INDIVIDUAL DIFFERENCES ALSO AFFECT CONFORMITY

Individual differences also influence the extent to which conformity occurs. Although the ambiguity and **unanimity** of the situation are powerful contributors to the incidence of conformity, they are not the sole determinants.

Personal characteristics and the individual's position within the group play a role as well. Individuals who have a low status within a group or are unfamiliar with a particular situation are the ones most likely to conform. Students who are new to a class, new members of a sports team, drama group, or new employees in a workplace are more likely to be affected by the pressure to conform.

Personality traits, such as concern with being liked or the desire to be right, also play influence the likelihood that people will conform to the social norms around them.

Cultural factors are also influential. Certain cultures are more likely than others to value group harmony over individual expression. In fact, school administrators, organisation managers, and even parents can establish an atmosphere or "culture" that either fosters conformity or allows for dissension and individuality.

HELPFUL ONLINE RESOURCES

Asch without the actors' Kazuo Mori and Miho Arai (2010) Access the full study at: **https://tinyurl.com/54b2ycbc**

How do researchers know about conformity? Classic Research - Asch (1951)

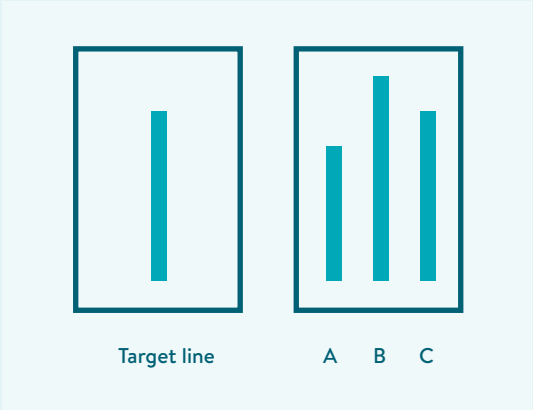
THIS RESEARCH IS PROVIDED AS BACKGROUND RESEARCH TO THE TOPIC OF CONFORMITY, BUT IS NOT EXAMINABLE

Aim: To examine the extent to which social pressure to conform from a unanimous majority affects conformity in an unambiguous situation.

Method: Asch's sample consisted of 123 male undergraduate students from Swarthmore College in the USA, who believed they were taking part in a vision test. Asch used a line judgement task, where he placed one real (naïve participant in a room with six to eight confederates (actors working on behalf of the experimenter), who had agreed their answers in advance. The naïve participant was deceived and was led to believe that the other people were also real participants. The real participant was always seated second from last.

In turn, each person had to say out loud which line (A, B or C) was most like the target line in length. The correct answer was always obvious. Each participant completed 18 trials and the confederates gave the same incorrect answer on 12 trials, called 'critical trials'. Asch wanted to see if the real participant would conform to the majority view, even when the answer was unambiguously incorrect.

Results: Asch measured the number of times each participant conformed to the majority view. On average, the real participants conformed to the incorrect answers on 32% of the critical trials. 74% of the participants conformed on at least one critical trial and 26% of the participants never conformed. Asch also used a control group, in which one real participant completed



the same experiment without any confederates. He found that less than 1% of the participants gave an incorrect answer.

Conclusion: Asch interviewed his participants after the experiment to find out why they conformed. Most of the participants said that they knew their answers were incorrect, but they went along with the group in order to fit in, or because they thought that they would be ridiculed. This confirms that participants complied due to normative social influence and the desire to fit in publicly without changing their private viewpoint.

EVALUATING ASCH

Asch used a biased sample of 123 male students from colleges in America. Therefore, we cannot generalise the results to other populations, for example female students, as we are unable to conclude if female students would have conformed in a similar way to male students. As a result, Asch's sample lacks population validity and further research is required to determine whether males and females conform differently.

Furthermore, it could be argued that Asch's experiment has low levels of **ecological validity**. Asch's test of conformity, a line judgement task, is an artificial task, which does not reflect conformity in everyday life which means the task lacks mundane realism. Consequently, we are unable to generalise the results of Asch to other real-life situations, such as why people may start smoking or drinking around friends, and therefore these results are limited in their application to everyday life.

Asch's research took place at a particular time in US history when conformity was arguably higher and has been criticised as being 'a child of its time'. Since 1950, numerous psychologists have attempted to replicate the Asch's study, for example Perrin and Spencer (1980) using maths and engineering students and found significantly lower levels of conformity. This suggests that Asch's experiment lacks historical validity and the conformity rates found in 1950 may not provide an accurate reflection of conformity in modern times.

Asch's research is ethically questionable. He broke several ethical guidelines, including deception and protection from harm. Asch deliberately deceived his participants, saying that they were taking part in a vision test and not an experiment on conformity. Although it is seen as unethical to deceive participants, Asch's experiment required deception in order to achieve valid results. If the participants were aware of the true aim, they may have displayed demand characteristics and acted differently. In addition, Asch's participants were not protected from psychological harm and many of the participants reported feeling stressed when they disagreed with the majority. However, Asch interviewed all his participants following the experiment to overcome this issue

Asch's (1951) study into conformity provides research support for **normative social influence**. He found that many of the participants went along with the obviously wrong answers of the other group members. When asked by Asch in post-experimental interviews why they did this, participants said that they changed their answer to avoid disapproval from the rest of the group,

which clearly shows compliance has occurred in order to 'fit in'. Further to this, Asch demonstrated in a later variation (1955) that when the pressure to publicly conform is removed by asking participants to write down their answers on a piece of paper, rather than say them aloud, the conformity rates fell to 12.5% as the fear of rejection became far less.

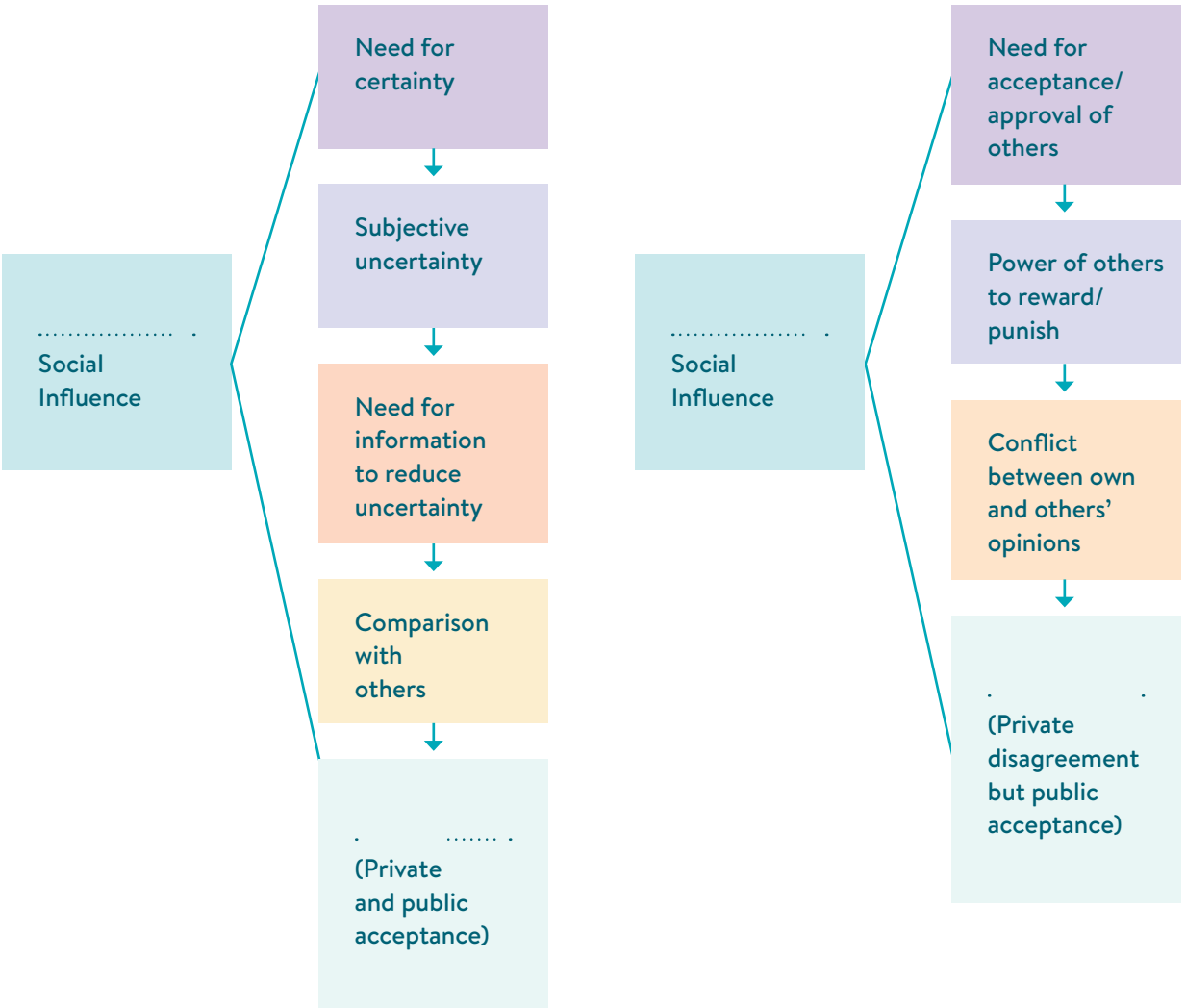
For more information about evaluating validity, reliability, sample size and ethical issues, refer to the Science Inquiry Skills chapter pages 482, 492.

Factors affecting conformity

In further trials, **Asch (1951)** changed the procedure (i.e., independent variables) in order to investigate which factors influenced the level of conformity (dependent variable). His results and conclusions are given below:

Size of the Group	Lack of Group Unanimity (i.e. agreement)
• Conformity tends to increase as the size of the group increases. • However, there is little change in conformity once the group size reaches 4-5. With one other person (i.e., confederate) in the group conformity was 3%, with two others it increased to 13% and with three or more it was 32% (or 1/3). • Because conformity does not seem to increase in groups larger than four, this is considered the optimal group size.	• When one other person in the group gave a different answer from the others, and therefore the group answer was not unanimous, conformity dropped. • Asch (1951) found that even the presence of just one confederate who goes against the majority choice can reduce conformity as much as 80%.
Difficulty of Task	**Answer in Private**
• When the (comparison) lines (e.g., A, B, C) were made more similar in length it was harder to judge the correct answer and conformity increased, reflecting Asch's results. • When we are uncertain, it seems we look to others for confirmation. The more difficult the task the greater the conformity.	• When participants were allowed to answer in private (so the rest of the group does not know their response) conformity decreases. • This is because there is less group pressure and normative influence is not as powerful.
Anonymity (i.e. secrecy)	**Status of Majority Group**
• When participants could write their answers down rather than announce them in public, conformity dropped. • This suggests that individuals conform because they are concerned about what other people think of them (i.e., normative influence).	• If someone is of high status (e.g., your boss) or has a lot of knowledge (e.g., your teacher), they might be more influential, and so people will conform to their opinions more readily (e.g., informational influence). • The higher the status of the group the higher the level of conformity.

The diagram below highlights the relationship between different kinds of social influence and different kinds of conformity. Fill in the blanks.



KEY TERMS

Conformity – yielding to group pressure (also known as majority influence).
Compliance – publicly, but not privately, going along with majority influence to gain approval.
Identification – public and private acceptance of majority influence in order to gain group acceptance.
Internalisation – public and private acceptance of majority influence, through adoption of the majority group's belief system.
Informational social influence – a motivational force to look to others for guidance in order to be correct.
Normative social influence – a motivational force to be liked and accepted by a group.
Cognitive dissonance – an unpleasant feeling of anxiety created by simultaneously holding two contradictory ideas.

SCIENCE AS A HUMAN ENDEAVOUR - THE ROLE OF SOCIAL MEDIA IN CONFORMITY

Explore how recent social issues assist psychologists to develop new understanding and insights into the human behaviour of conformity. Consider the role that social media plays in these complex problems and challenges at local, national, and global levels.

Social media gives people a way to create their own self-images, interact within new social circles. Social media, and the accessibility of news, and fake news available on the internet, television, radio and print media provides instantaneous access to contrasting social norms and influences which would not be as accessible or influential in an offline world.

Traditionally, people have been subject to social influence and conformity as a result of physical and immediate social circles actually present in a person's life – family, friends, teachers, influential people via movies, music, politics. With the increase in accessibility to the internet and social media, people are now able to engage with views and movements which are happening across the world, with people they may not have met. This results in a massive increase in the possible sources which may lead an individual to conform to certain ideologies or views.

Black Lives Matter – 2020:
https://tinyurl.com/24v2bseb

Storming the Capitol – 2021:
https://tinyurl.com/y5c7uyb9

Anti-vaccine protests – Australia – 2021
https://tinyurl.com/uc628t97

Examples of Conformity which could be investigated using an observational design	
Following rules	In Australia, we drive on the left-hand side of the road as we are required to follow this societal rule.
Greeting	Whenever we meet a person, we usually greet them with the word "Hello", a handshake, a hug, or some other greeting. It is the social norm, which we follow. When we do not greet the person, we are assumed to be rude, or standoffish.
Queues	In Western society, people conform when they stand in lines, at a bus stop, the canteen, entrance to a concert, or at the supermarket. If someone pushes ahead in a queue people are often offended. There are cultural differences in this practise.
Following fashion	What to wear and how to wear it is a common social norm people have been following throughout each decade. We tend to follow fashion icons or other people. If any of us try to wear clothes that are at odds with what society wears, we are considered to be abnormal.
Changing eating habits	Food advice and diets tend to follow trends. For example, people elect to eat vegan after becoming influenced by the other members of our group because we too think that becoming vegan is helpful to the society and we will not cause any harm to the animals around us.
Education and career	Many young people choose a career path because of peer pressure or parents encouraging them to do so. It is a common social norm, that after completing senior secondary education, we have to go to university for higher education like others are doing.
Behaviour in class	When we are asked for an opinion in the class, we mostly agree with what the majority is saying. Though we might have another idea, we agree with the majority because we don't want to feel different from other students.
Adopting habits	Adopting habits which may be good or bad are also part of conformity. Young people often get involved in bad habits like drinking and smoking because their peers are doing the same. People join them because no one wants to be the one who isn't joining in.
Political views	We often tend to adopt the political views of our parents, due to their long-standing opinion, and influence over us.
Social views	We are influenced to develop opinions about societal topics by the media and our peers. Consider the influence of media on different protests and rallies held across the world.
Social media	How often do people 'like' a picture, or statement on Instagram, Facebook or Twitter as a direct result of other people having 'liked' it before them. Social media relies on people conforming by following people who have a large amount of followers.

DESIGN

Design an **observational study** to investigate one of the issued identified in the table above. Ensure you provide justification of your chosen method.

SCIENCE INQUIRY SKILLS

Observational designs have sometimes been used in the study of social influence, where the investigator collects data by observation of selected participants.

For a full explanation of the different types of observational designs, refer to page 447 in the Science Inquiry Skills Chapter.

CHECKING FOR UNDERSTANDING:

Explain how observational designs differ from experimental designs.

An opportunity to practice transfer of your learning

CASE STUDY

Human rights violations against detainees in the Abu Ghraib prison in Iraq, revealed in 2004. Read: Abu Graib Prison – An “Atrocity – Producing Situation

ABU GHRAIB PRISON- AN "ATROCITY-PRODUCING SITUATION"?

As the first photos emerged in 2004 from Iraq's Abu Ghraib prison, the civilized world was shocked. The photos showed U.S. military guards stripping prisoners naked, placing hoods on them, stacking them in piles, prodding them with electricity, taunting them with attack dogs, and subjecting them to sleep deprivation, humiliation, and extreme stress. Was the problem, as so many people initially supposed, a few bad applies - a few irresponsible or sadistic guards? That was the U.S. Army's seeming verdict when it court-martialed and imprisoned some of the guards, and then cleared four of the five top commanding officers responsible for Abu Ghraib's policies and operations. The lower-level military guards were "sick bastards" explained the defense attorney for one of the commanding officers (Tarbert 2004).

Many social psychologists, however, reminded us that a toxic situation can make even good apples go bad (Fiske et al, 2004). "When ordinary people are put in a novel, evil place, such as most prisons, Situations Win, People Lose," offered Philip Zimbardo (2004), adding, "That is true for the majority of people in all the relevant social psychological research done over the past 40 years."

Consider the situation, explained Zimbardo The guards, some of them model soldier-reservists with no prior criminal or sadistic history, were exhausted from working 12-hour shifts, seven days a week. They were dealing with an enemy, and their prejudices were heightened by fears of lethal attacks and by the violent deaths of many fellow soldiers. They were put in an understaffed guard role, with minimal training and supervision. They were then encouraged to "soften up" for interrogation detainees who had been denied access to the Red Cross. "When you put that set of horrendous work conditions and external factors together, it creates an evil barrel. You could put virtually anybody in it and you're going to get this kind of evil behaviour" (Zimbardo, 2005). Atrocious behaviours often emerge in atrocious situations.

HELPFUL ONLINE RESOURCES

Watch the interview between Andrew Denton and Phillip Zimbardo on ClickView. The Zimbardo Interview starts at the 23-minute mark. Zimbardo discusses the human rights violations against detainees in the Abu Ghraib prison in Iraq, revealed in 2004, and makes comparisons to his Stanford Prison Experiment. **https://tinyurl.com/5jhudyeb**

Warning: Some of the pictures in this clip are confronting and there is also a language warning.

You will see and hear Zimbardo’s response to many of the aspects of the study that emphasised how the participants believed in the role of either guard or prisoner. Denton also links Zimbardo’s experiment to the role he played as expert witness when a number of US military men and women were charged with the abuse they gave to prisoners in Abu Ghraib (Iraq) during 2006.

Discuss whether the findings from experiments on conformity or obedience help us to understand real-life atrocities.

Social, cultural and ethical impact of enthnocentric bias in observational research

POSSIBLE TEACHING IDEA

Are there cultural differences in conformity? Explore the differences in conformity between individualistic and collectivist cultures at: https://tinyurl.com/mrceap4c

Observational research is often the chosen method of conducting cross-cultural research on social influence. However, there are social, cultural and ethical implications of conducting research with Indigenous groups.

Minority communities can be subject to ethnocentric bias when the investigator collected data by observation of selected participants.

ETHICAL IMPLICATIONS

Australian guidelines highlight the need to respect and support research participants, with additional elements and nuances found in ethical guidelines for research with Indigenous people and communities. According to the National Statement, all research involving Indigenous peoples must be reviewed and approved by a registered Human Research Ethics Committee (HREC). The HREC process must include assessment by or advice from people who have networks with and/or knowledge of research with Indigenous peoples; and people familiar with the culture and practices of the people with whom participation in the research will be discussed. (NHMRC et al 2007b).

Informed consent. Tauri (2017) identified that institutionalised Research Ethics Boards' (REB) preference for 'universal' and 'individualised' approaches to judging the merit of ethics applications often results in the marginalisation of Indigenous approaches to knowledge construction, particularly in relation to the vexed issue of informed consent.

PRINCIPLES OF ETHICAL CONDUCT AND GOOD PRACTICE RESEARCH

General principles for ethical conduct in human research (NHMRC et al 2007a)	Values and principles for ethical conduct in Aboriginal and Torres Strait Islander health research (NHMRC 2003)	Principles of good practice social policy research and evaluation (NZ) (SPEaR 2008)
Honesty and integrity Respect for participants Good stewardship of public resources Appropriate acknowledgments of the role of others Responsible communication of results	Reciprocity Respect Equality Responsibility Survival and protection Spirit and integrity	Respect Integrity Responsiveness Competency Reciprocity

Table 4.2.1: Putt, 2021.

Compare the ethical requirements regarding research with Indigenous groups compared to the APA ethical guidelines in the SIS chapter.

Typically, any psychological research requires the participant to sign documentation regarding consent to engage, however in rural areas, where presented with the paperwork, there is a high incidence whereby Indigenous people are not able to read or comprehend the information adequately to be considered informed consent. Tauri, amongst others have argued where research with Indigenous groups occur, if an elder has agreed to speak with a researcher about their culture, then this should be considered absolute consent. In the event where paperwork is produced regarding informed consent it is likely that that elder will refuse to engage further as he does not understand this western principle. Given the potential difficulties in effectively communicating and displaying cultural sensitivity, it is important to ensure that Indigenous participants have access to translators, interpreters and advocates during the research process. Explicit and implicit power differentials create ethical challenges and may arise simply due to the researchers enhanced educational standing. Providing opportunity for community involvement in the study design, implementation and presentation of research may help to shift the power imbalance whether perceived or real, whilst attempting to ensure that the research method and procedures are culturally sensitive.

CULTURAL IMPLICATIONS

There is an increasing demand for social research and data collection in the field of Psychology to stretch beyond the typical Western, educated, industrialised rich and democratic (WEIRD) populations. (Broesch et al., 2020), One challenge that many researchers have identified is the need for culturally appropriate research methods and ethics. If there is one message that emerges from cross-cultural research, it is that one should never assume that a task in a psychological instrument will have the same meaning **cross-culturally** (Van de Vijver and Leung, 1997). According to Battiste and Youngblood Henderson 2020, much of the existing research on Indigenous peoples is contaminated by **Eurocentric** prejudice and ethical research must begin by replacing Eurocentric prejudice with new premises that value diversity over universality. This simply means that conducting research with Indigenous cultures requires a culturally specific approach where Universal principles in research and ethics are removed. Given that most research instruments have been developed for use within Western populations and culture, there is an increased risk of **cultural bias** and critical interpretation of cultural practices and everyday behaviour. In the context of change to research ethics board (REB), the operationalisation of universalism is often based on the ideological belief that, with a little tweaking to make them situationally and culturally responsive, 'Western' social research methods, **methodologies** and ethics protocols can be made applicable to all social and cultural contexts (Youngblood Henderson, 1997). In essence Indigenous research needs to be respectful of the differences between Indigenous culture and that of the researcher to ensure that an ethical approach and practice is maintained (Tauri 2014).

HELPFUL ONLINE RESOURCES

Further reading
Navigating cross-cultural research: methodological and ethical considerations:
https://tinyurl.com/49ub7jfy

Researchers have a responsibility to cause no harm, but even well-intentioned research has been a source of distress for Indigenous people because the use of culturally insensitive research designs and methodologies fail to meet the needs, customs, and standards of Indigenous people and communities. Where there is no understanding of cultural differences and universal research methods are applied, objectivity in recording, analysis and reporting may be compromised and reinforce the disempowerment of Indigenous people, particularly when the need to distribute and report academic findings contrast with the need to protect Indigenous knowledge.

CHECKING FOR UNDERSTANDING

Follow the link and read through the article titled Conducting research with Indigenous people and communities. Make note of 5 key points regarding ethical requirements when conducting research with Indigenous Australians. https://tinyurl.com/dvvz977f

1.

2.

3.

4.

5.

SCIENCE AS A HUMAN ENDEAVOUR - REAL WORLD APPLICATION: CONDUCTING RESEARCH WITH INDIGENOUS PEOPLE AND COMMUNITIES

Read through the following scenarios which are inherent cultural practices and consider how these may be interpreted from a researcher with little understanding of their culture.

Figure 4.2.7: Bright, creative body painting is a traditional custom. The ornamentation and design reflect a person's family, ancestors, social grouping and territory, and is a deeply spiritual practice, particularly around marriage ceremonies. The style of art varies greatly around the different Aboriginal communities.

Figure 4.2.8: Alkira-Kiuma Ceremony or the Tossing Ceremony of the Aranda Tribe (1904). At age twelve, the boy's first initiation ceremony, tossed and caught by various male relatives.

Figure 4.2.9: Mpumalanga Province, South Africa. Initiating boys into manhood is an ancient African tradition still valued and practiced by many tribes in South Africa. In some tribes, a male is never recognized as a real man if he has not participated in the formal rituals.

To undergo initiation, boys as young as 12 are compelled to stay in the mountains away from their families for about five weeks. What happens there is shrouded in secrecy and never discussed once they return.

But what is known is that hundreds of boys have died in recent years while others have lost their manhood during some of these initiation rituals.

Figure 4.2.10: This sacrificial ritual occurs in Papua New Guinea's Sepik region and is the process for a young man's rite of passage into manhood. The elders of the tribe cut the younger boy's skin with razors until it resembles alligator skin. The belief is that the alligator will then consume their boyhood, leaving them behind as men instead.

How could a western researcher develop behavioural counts without bias when conducting Indigenous research?

SOCIAL IMPLICATIONS

Much of the research conducted on Indigenous communities and culture tends to focus on the gap between Indigenous and non-Indigenous health, service provisions and service engagement, alongside crime and incidents of death during incarceration. Numerous communities report their decision to disengage with mainstream researchers is due to their lack of understanding of culturally specific needs when working with Indigenous people.

Whilst these are important areas for researchers to study there is some concern that these research areas reinforce the on-going stigma and marginalisation of Indigenous peoples. Many indigenous communities choose to limit sharing their traditional customs and knowledge with mainstream society on this basis with various research findings indicating that Indigenous participants felt that their personal safety within the community was compromised due to engaging in the research process. In such circumstances, the onus is on the researcher to ensure that, at a minimum, there is access to information about appropriate and accessible services that the participant can seek help and advice from.

HELPFUL ONLINE RESOURCES

Further reading
SOCIAL DETERMINANTS AND THE HEALTH OF INDIGENOUS PEOPLES IN AUSTRALIA – A HUMAN RIGHTS APPROACH

Recognising the contemporary impact of colonization on Indigenous peoples globally remains a major challenge for the international community and the United Nations. It is also a major challenge for those seeking to understand the social determinants of health among Indigenous communities. (Social determinants and the health of Indigenous peoples in Australia – a human rights based approach | Australian Human Rights Commission, 2021) **https://tinyurl.com/45ae4fbz**

An opportunity to practice transfer of your learning

CASE STUDY: ASSIMILATION POLICY AUSTRALIA (1937)

The assimilation policy was a strategy to absorb Aboriginal people into white society through the process of removing children from their families (i.e. the 'stolen generation') and has led to the destruction of traditional Aboriginal society.
The Intervention (2007) for Aboriginal communities and people in Australia by John Howard and the Government were a series of policies in response to crisis levels of neglect and sexual abuse of children in Indigenous communities.
When Kevin Rudd came to power in 2007, he promised to deliver a National Apology to the Stolen Generations. This promise was fulfilled on the 13th of February 2008.
Indigenous Australians still live with the reality that they are a minority group that is often expected to conform with majority norms, biases and values regarding culture and lifestyle. They also live with the very real gap in wellbeing that affects their ability to thrive within broader Australian society.

Read: A brief introduction the White Australia policy: A white Australia: **https://tinyurl.com/t46y2fmp**

Read The Intervention: **https://tinyurl.com/hhdhuxx2** – A controversial policy package

Watch Utopia (a film by John Pilger) 2013 which describes the social influence of the assimilation policy (1937) and intervention (2007) on the Aboriginal people of Australia: **https://vimeo.com/167556065**

Watch Kevin Rudd's National Apology speech: **https://vimeo.com/167556065** to the Stolen Generations.

Minority communities can be subject to ethnocentric bias when the investigator collects data by observation of selected participants. Describe the social, cultural and ethical impact on Australian Aboriginal people.

4.3 ATTITUDES AND PERSUASION

An attitude refers to a set of emotions, beliefs and behaviours toward a particular object, person, issue, or event. Persuasion is the art of convincing others to change their attitudes or behaviours.

Various factors influence attitude formation and/or attitude change.

- Describe how the source, message, audience, peripheral and central processing routes, direct and indirect experience affect the persuasion process.

The detection of, and resistance to, persuasion tactics can be facilitated by an understanding of persuasion strategies.

- Explain how the following strategies aim to persuade:
  - the norm of reciprocity
  - door-in-the-face
  - foot-in-the-door.

The relationship between attitudes and behaviour is bidirectional.

- Discuss how strength, accessibility and specificity of an attitude may influence behaviour.

Behaviour also influences attitude.

- Explain why, in the Zimbardo's prison experiment, as the guards assumed their roles and began mistreating their prisoners, their attitude towards their prisoners changed.

The attitude-behaviour link is not always consistent.

- Discuss how situational pressures and self-monitoring may influence behaviour.
- Discuss the consequences of inconsistency between attitudes and behaviour.

There are different ways of measuring attitudes.

- Describe the advantages and disadvantages of using the following tests to measure attitudes:
  - self-reports
  - behavioural counts
  - Implicit Association Test.

2022 Subject Outline | Stage 2

Attitudes

What's your opinion on the topic of euthanasia? Should Australia legalise marijuana? Should school start at 11:00am each day? Who is the best football, soccer or netball / team at the moment? Should we change the date of Australia Day?

There is a good chance you probably have strong opinions on these questions, and many others. You have developed attitudes about these topics and issues as you have grown up, listened to peers, parents and media. These attitudes influence your beliefs as well as your behaviour.

Psychologists define attitudes as a learned tendency to evaluate things in a certain way. This can include evaluations of people, issues, objects, or events. These evaluations are often positive or negative. For example you like Pop music, and dislike Rap music. They can also be uncertain at times, for example, you might have mixed feelings about a particular person or issue.

Researchers also suggest that there are several different components that make up attitudes.

A

The **affective component** refers to the emotional reactions or feelings a person has towards something – this may be an object, person, event or issue. It is based on judgement and therefore results in a positive emotion (such as liking roller coasters), a negative emotion (such as disliking, or hating raw tomatoes) or a neutral response (such as lack of interest in current affairs). An ambivalent response occurs when you have both positive and negative feelings about something, for example, you may be excited about the end of year 12 and happy to finish school, but uncertain about what will happen after school, so would prefer to stay.

B

The **behavioural component** refers to the actions or behaviours that we do in response to this same object, person, event or issue. For example, if we have positive feelings about roller coasters, we are likely to go on roller coasters at the Adelaide Show every year. If we dislike tomatoes, we ask to have them removed when we order a burger for lunch.

C

The **cognitive component** refers to the thoughts or beliefs we have about the topic. Our beliefs are linked to what we have learned about the world we live in and are shaped by our experiences and the people we meet along the way, they form part of our general knowledge. Some beliefs are based on fact, such as "centripetal force is what keeps you from falling out of roller coaster while it's upside down". Some beliefs may be false or based on opinion (all babies are cute). Some beliefs can be verified, others cannot.

One of the underlying assumptions about the link between attitudes and behaviour is that of consistency. This means that we often or usually expect the behaviour of a person to be consistent with the attitudes that they hold.

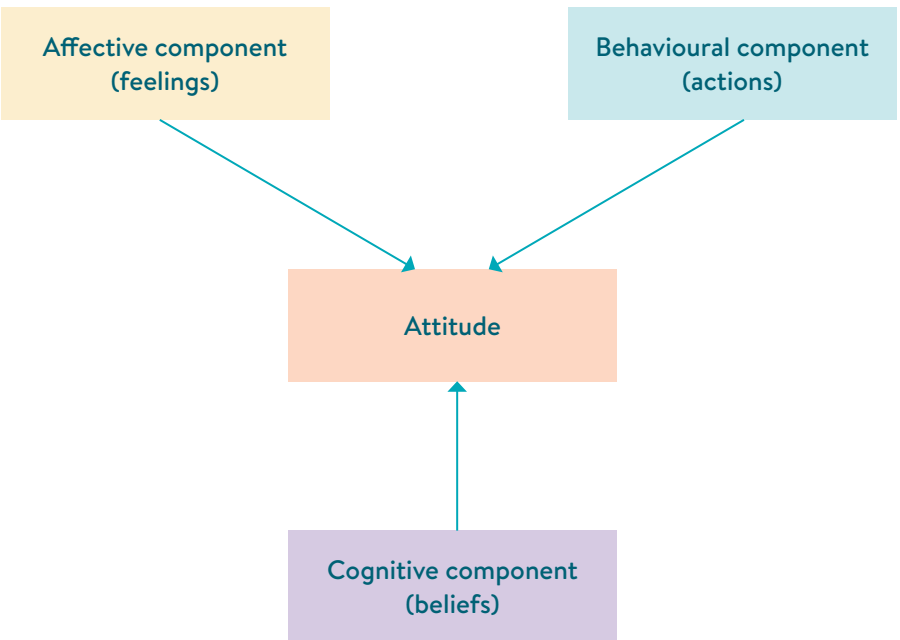


Figure 4.3.1: The components of attitudes are sometimes referred to as the ABC's of attitudes.

CHECKING FOR UNDERSTANDING

Identify the A B C components of the following attitudes, then create an example of your own.

Attitude towards smoking →

Affective
(emotions, feelings)

Behavioural
(actions)

Cognitive
(beliefs, ideas)

Attitude towards tattoos →

Affective
(emotions, feelings)

Behavioural
(actions)

Cognitive
(beliefs, ideas)

Attitude towards fitness and exercise →

Affective
(emotions, feelings)

Behavioural
(actions)

Cognitive
(beliefs, ideas)

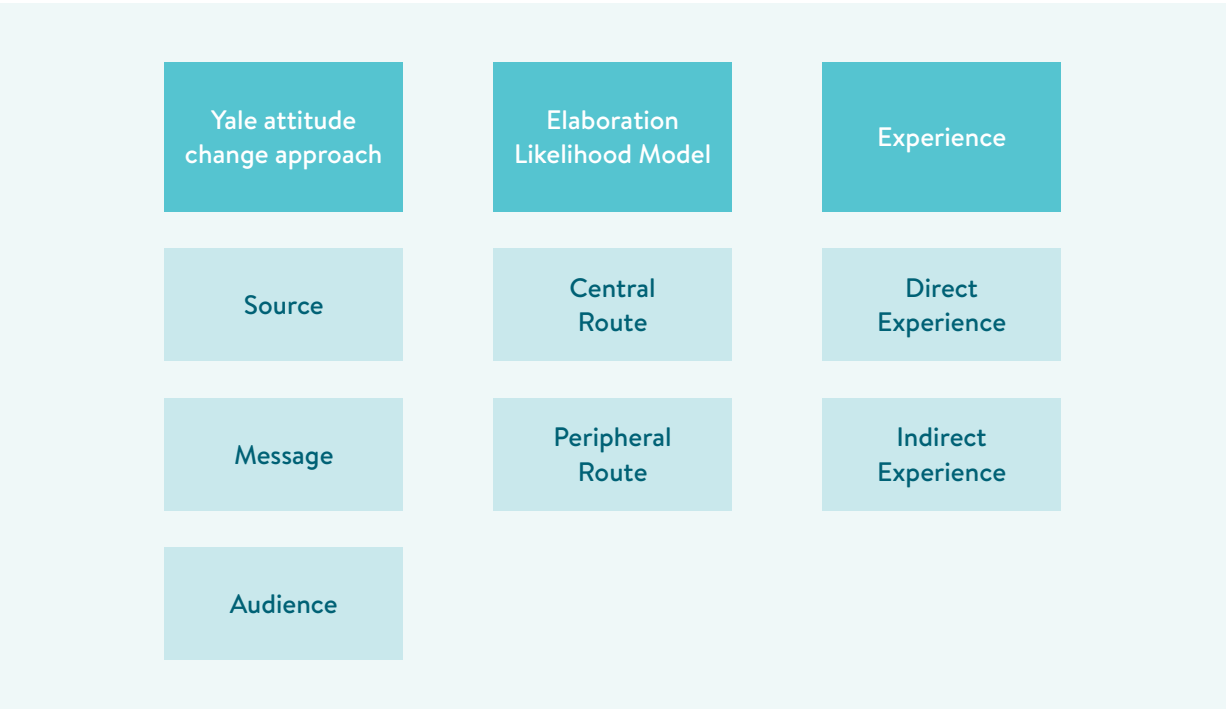
Factors affecting attitude formation and/or attitude change

External factors: Attitudes are affected by external factors associated with **persuasion**. Persuasion is the process of changing our attitude toward something based on some kind of communication from other people. People spend a lot of time and energy trying to influence others to change their attitudes, beliefs, and behaviours. Your parents, teachers, peers all do this, perhaps without even realising it!

Various theories have been proposed to explain how the persuasion process occurs, as there are countless people whose every day work relies on being able to persuade people to form or change their attitudes towards things.

Influencing people's attitudes is the primary objective of anyone who works in advertising. Essentially it is the role of advertisers to persuade you to buy their product or service. Politicians are also people who work in the area of persuasion as they need to persuade you to vote for them at the next election.

Each of these 3 theories will be discussed, and the overlap between them explored.



SOURCE, MESSAGE, AUDIENCE – THE YALE ATTITUDE CHANGE APPROACH

The conditions under which people tend to change their attitudes is of great interest to social psychologists, as with the power to persuade, comes the ability to persuade people how to spend their money. Hovland demonstrated that certain features of the *source* of a persuasive message, the *content* of the message, and the *characteristics of the audience* will influence the persuasiveness of a message (Hovland, Janis, & Kelley, 1953). Advertising companies have become experts in understanding how to influence our attitudes by understanding three factors - the source, message and audience – or in other words – who, says what, to whom?

Figure 4.3.2: Advertising is a form of persuasion aimed at either getting us to form an attitude in the first place, or to change our attitude about their product or service.

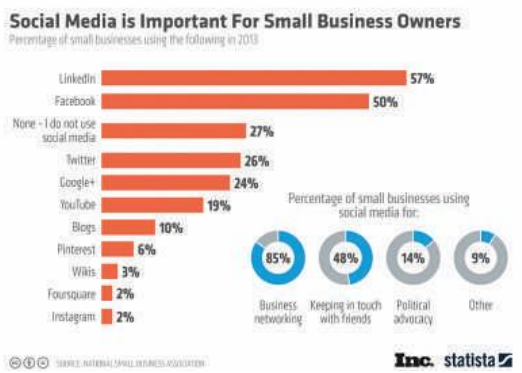


Figure 4.3.3. We encounter attempts at persuasion everywhere. Persuasion is not limited to formal advertising; we are confronted with it throughout our everyday world.

SOURCE	MESSAGE	AUDIENCE
The source is the person who conveys the message. The more favourably we view the source the more likely we are to view the message more favourably. The effectiveness of the source is determined by their credibility, trustworthiness, expertise, and attractiveness or likeability. **Experts** and trustworthy people would be regarded as credible. Thus, speakers who are credible, or have expertise on the topic, and who are deemed as trustworthy are more persuasive than less credible speakers. Talking quickly increases trustworthiness, as it makes you seem more intelligent and knowledgeable. Similarly, more attractive speakers are more persuasive than less attractive speakers. The use of famous actors and athletes to advertise products on television and in print relies on this principle.	For the message to be effective, you need to evoke strong emotions or strong processing in the audience. The message could include statistics or a story to arouse emotions. Positive feelings can also make a message more convincing. Negative emotions are also effective. Fear is often used in health and safety campaigns such as drink-driving, anti-smoking and terrorism. Messages that are more subtle are more persuasive than direct messages, however, a message is more effective when people don't think they are being tricked. Repetition of a message is a good way for people to remember it. Arguments that occur first, such as in a debate, are more influential if messages are given back-to-back. However, if there is a delay after the first message, and before the audience needs to make a decision, the last message presented will tend to be more persuasive.	Features of the audience also affect how easy it is to persuade attitude change. In order to be persuaded, audience members must be paying attention. Older generations have more conservative views, they are more likely to have formed attitudes through direct experience –harder to change. Younger people often form attitudes based on what other people have told them, therefore easier to change. People with low self-esteem are persuaded more easily. How much we know about a topic and personality are also factors.

PERIPHERAL AND CENTRAL PROCESSING ROUTES – THE ELABORATION LIKELIHOOD MODEL (PETTY & CACIOPPO, 1986)

The elaboration likelihood model considers the variables of the Yale attitude change approach, that is the features of the source of the persuasive message, contents of the message, and characteristics of the audience. Each of these variables are used to determine when attitude change will occur. According to the elaboration likelihood model of persuasion, there are two main routes that play a role in delivering a persuasive message: the central route and the peripheral route.

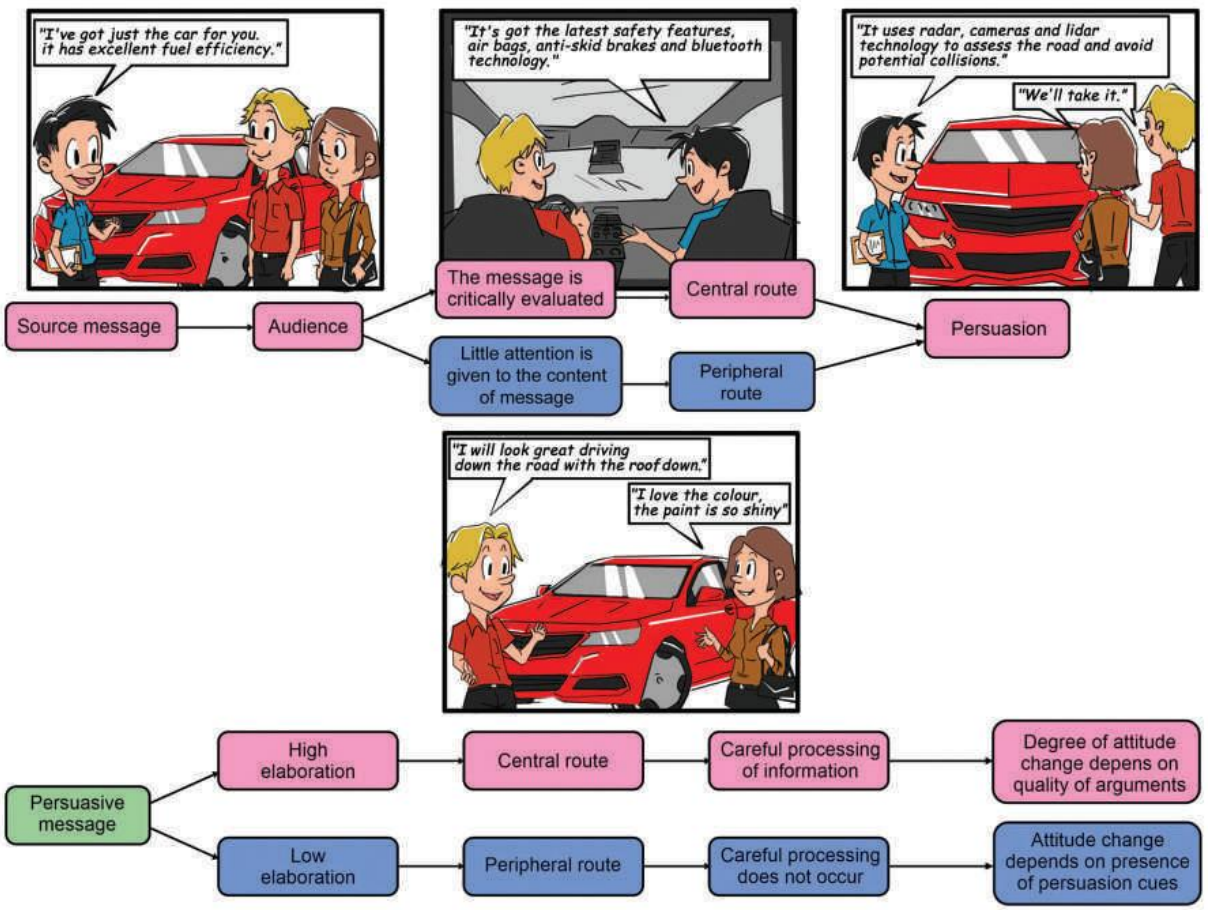


Figure 4.3.4: Persuasion can take one of two paths, and the durability of the attitude change depends on the route taken

CENTRAL ROUTE OF PERSUASION

The central route of persuasion is about making the audience of the message think carefully about the message to evaluate the information. The central route is logic driven and uses data and facts in the message to convince people of the persuasive message. It works best when the audience is analytical and willing to engage in processing of the information. These people need a message that is credible, presented clearly and simply and backed up by evidence. They will be persuaded by a message that focuses on the quality of the product. For the central route of persuasion to be effective in changing attitudes, thoughts, and behaviours, the argument must be strong and, if successful, will result in lasting attitude change.

For example, a car salesperson wanting to persuade you to buy their latest new model will emphasise the car's safety features and fuel economy.

PERIPHERAL ROUTE OF PERSUASION

The peripheral route is about persuading people using "peripheral" cues. It requires little processing or thinking by the audience. Instead of focusing on the facts and a product's quality, the peripheral route relies on association with positive characteristics such as positive emotions and celebrity endorsement, or images of beauty and pleasure. For example, having a celebrity endorse a new model of car, pointing out its speed, slick look and range of paint colours is more likely to be persuasive for a younger audience.

The audience that is targeted by the peripheral route is often one that is young or has low self-esteem. Children are targeted through the peripheral route with colour, cartoons and jingles. The audience does not need to be analytical or motivated to process the message via the peripheral route, the persuasion if often subtle, such as with strategic product placement in movies, and reality television shows.

Evidence shows that over a long period of time the central route is more likely to have a longer lasting effect upon a person's attitudes as the person has to process the cues more carefully.

Figure 4.3.5: Peripheral route advertising can be overt, as people are drawn to the illusion of sale items, and the possibility of saving money.

DIRECT AND INDIRECT EXPERIENCE

Direct experience: attitudes are formed and changed through direct experience; in other words, you have experienced something yourself. Listening to a live band, going on a rollercoaster, or living with a smoker are all examples where you might directly experience the matter that you form an attitude about. You might love the band, and attend their concerts again, you might hate the roller coaster because you felt sick, and never go on roller coasters again, and you might form an attitude that smoking is not OK, based on your experience of living with someone who develops emphysema. Attitudes formed through direct experience are generally stronger attitudes. We are more likely to think and talk about things that happen to us personally – this in turn strengthens the attitude, making them more enduring and resistant to change.

Figure 4.3.6: Experiencing a rollercoaster is a direct experience that would probably lead to a strong positive or negative attitude towards rollercoasters depending on the emotions felt during the ride.

Indirect experience: or being exposed to a topic, event, issue or object involves forming an attitude in a way that is less personal. This could include reading about or being told about something. Advertising is an example of indirect experience. You might form an attitude about a person at school based on a friend's experience of that person. Consider how bullying occurs in school where a group of people develop an attitude about another group of people, without any personal interactions between the groups. Attitudes formed this way are more susceptible to change. They are less emotionally intense and do not evoke the same levels of thinking or talking that attitudes formed through direct experience do.

Synthesise your understanding of how the source, message, audience, peripheral and central processing routes, direct and indirect experience interact and cross over one another. For each of the options below, identify the characteristics which affect the persuasion process the most and increase the likelihood the persuasive message will be effective.

	Central Route	Peripheral Route
Source		
Message		
Audience		
Direct Experience		
Indirect Experience		

POSSIBLE TEACHING CONSIDERATIONS:

A quote from the article "Advertising to children: is it ethical?" states:
"Kanner and several colleagues are up-in-arms about psychologists and others who are using psychological knowledge to help marketers target children more effectively. They're outraged that psychologists and others are revealing such tidbits as why 3 to 7 year-olds gravitate toward toys that transform themselves into something else and why 8 to 12 year-olds love to collect things."

Read the full article here **https://tinyurl.com/4sjdkmz2**
https://tinyurl.com/x8nysjn9
https://tinyurl.com/prhx4b7k

Discuss whether it is ethical for advertisers to the use of knowledge about components of attitudes and elements of persuasion from to influence children through marketing.

CHECKING FOR UNDERSTANDING

Using a range of advertisements from those provided here, or a selection of your own, describe how the source, message, audience, peripheral and central processing routes, direct and indirect experience affect the persuasion process.

Persuasion strategies

Researchers have tested many persuasion strategies that are effective in selling products and changing people's attitude, ideas, and behaviours. When someone is trying to sell you something, your ability to recognise and perhaps resist their persuasion tactics can be facilitated by an understanding of the following persuasion strategies.

THE NORM OF RECIPROCITY

This is based on the social norm that people will return a favour when one is granted to them. Linked to the psychology of compliance, this persuasive technique is more likely to occur when the requester has previously complied with one of the target's requests. This technique is used by marketers to manipulate the behaviour of prospective purchasers.

Have you ever been giving a freebie, or taste test of a product? Perhaps a sample of ice-cream while you are waiting for your hot dog? Other companies offer a free trial of their product; this strategy is often seen in telemarketing, or in selling computer software. The company will offer you a free trial of their product with the offer to return the product if you are unhappy. The **norm of reciprocity** leads you to feel obligated to return the favour of the free trial by keeping and purchasing the product.

Figure 4.3.7: Sheldon and Penny discuss the norm of reciprocity in gift giving.

HELPFUL ONLINE RESOURCES

Watch a clip from the Big Bang Theory which demonstrates his technique.
https://tinyurl.com/2a56v2w7

DOOR-IN-THE-FACE

This technique begins with an initial large request, suggestion to do something, or purchase something. People who stop you in the mall to talk to you about donating to a charity use this technique. They initially ask you to consider spending $100 to support their charity. Once you say no, they suggest that you perhaps buy their calendar for $20 or make a small donation of only $5. Because you don't have $100 to spare, but feel guilty and believe the cause is worthy, people are likely to respond positively to the persuasion technique and spend the $5 (that they hadn't originally planned to spend).

For the **door-in-the-face** persuasion technique to work, the initial request must be rejected by the target person, and then the target person must be persuaded to believe that they are making a concession or reducing their expectations. Skilled negotiators who sell goods on eBay, Gumtree or in person at the markets use this technique to get you to spend a small amount of money.

HELPFUL ONLINE RESOURCES

Watch a YouTube clip here which demonstrates this technique.
https://tinyurl.com/3pbfvnum

FOOT-IN-THE-DOOR

Using the **foot-in-the-door technique**, the persuader gets a person to agree to a small favour or to buy a small item, only to later request a larger favour or purchase of a bigger item.

Consider whether you use this technique with your parents (or whether they use it with you!)

Have you ever asked a parent to let you stay out half an hour later, only to ask them next week to stay out an hour later? Salespeople use this strategy every time they try and upsell you. You have already purchased a new phone from them, so they try and suggest a bigger purchase by adding on the extended warranty. "Would you like fries with that?" is a common phrase taught to fast food outlets to increase the sales and persuade people to spend more money than they originally intended.

This technique is linked to the psychology of compliance, because you have complied with the initial request or purchase, you are more likely to respond positively to the additional request or suggestion to continue purchasing more items.

HELPFUL ONLINE RESOURCES

Watch a YouTube clip here which demonstrates this technique.
https://tinyurl.com/5cv6rf2c

CHECKING FOR UNDERSTANDING

You are the manager of a sales team and are putting together a presentation for the members of your team. Choose a product that your team is going to be marketing, then outline how each of the persuasion strategies could be used by your team to maximise sales.

Now that you are aware of these persuasion techniques, consider where you have come across these strategies being used in everyday life. Make a list of businesses that use these persuasion techniques in their marketing.

Bidirectional relationship between attitudes and behaviour

Some psychologists believe that there are possibly only affective and cognitive components of attitudes because a person's behaviour does not always reflect an attitude that is held; that is, the behavioural component is often inconsistent with the affective and cognitive components of the attitude. For example, you may tell people that you have a negative attitude towards smoking, and therefore you don't smoke and believe you would actively avoid people who smoke. However, when socialising with friends who smoke, you find yourself going outside with them to keep them company, so your attitude that you don't like smokers is inconsistent with your behaviour. If it is accepted that behaviour is considered separate to attitudes (the affective and cognitive components), then it is possible to study the relationship between attitudes and behaviour. It has been found that there is **bi-directional relationship** between attitudes and behaviour, therefore attitudes can influence behaviour, and behaviour can influence attitudes.

ATTITUDES CAN INFLUENCE BEHAVIOUR

ATTITUDE STRENGTH

Strong attitudes are those that are firmly held and that highly influence behaviour. Attitudes that are important to a person tend to be strong. Attitudes that people have a vested interest in also tend to be strong. Furthermore, people tend to have stronger attitudes about things, events, ideas, or people they have considerable knowledge and information about.

When attitudes are formed through direct experience, they tend to have more influence over behaviour.

If you have had a direct experience eating anchovies and disliked the flavour you are less likely to eat them again in the future. Attitudes formed through direct experience are better predictors of future behaviour than attitudes formed through indirect experience. Someone who hears about your dislike of anchovies second-hand, or by reading or hearing about it from others is less likely to have a strong attitude against anchovies and is likely to try them themselves sometime in the future.

Attitudes developed through direct experience are more clearly defined, held with greater certainty, more stable over time and therefore more resistant to counterinfluence.

HELPFUL ONLINE RESOURCES

To read more about the research about attitude strength, refer to the study by Regan and Fazio (1977) **https://tinyurl.com/2f2zt58p**

ATTITUDE ACCESSIBILITY

The accessibility of an attitude refers to the ease with which it comes to mind. In general, highly accessible attitudes tend to be stronger. Think of the human mind like a filing cabinet. Those attitudes which we use frequently are in the front of the cabinet, and are easy to find, they are accessible, whilst others take a while to find elsewhere in the cabinet.

Attitudes that are retrieved the fastest are the most accessible and are better predictors of behaviour – the relationship between the attitude and behaviour is stronger. People who talk about an issue frequently are more likely to engage in behaviour consistent with the attitude than those who rarely consider the issue. For example, people who talk frequently about their health and fitness, are more likely to go to the gym.

Snyder and Kendzierski (1982) suggest that attitude accessibility is influenced by relevance. For instance, if I have a positive attitude to the environment, and this is accessible, when I go to purchase a new lawn mower, I will consider that the pollution and emissions from the lawn mower is relevant which will influence my purchasing behaviour.

HELPFUL ONLINE RESOURCES

To read more about the research about attitude accessibility refer to the study by Snyder and Kendzierski (1982) **https://tinyurl.com/yskyyf79**

ATTITUDE SPECIFICITY

Another way that we can increase the chances that an attitude will lead to a consistent behaviour is to make sure that the attitude is more specific than general. For example, many people would say they have a positive attitude towards exercise and fitness, yet if asked to meet at the gym, or go for a run, would decline the offer, indicating a weak relationship between attitude and behaviour. If instead you indicated that you had a positive attitude towards walking on the beach on the weekend, this is a much more specific attitude, and a greater predictor of behaviour.

Attitude specificity explains why someone might have a positive attitude towards the environment, but choose to drive a large four-wheel drive, or value family, but not attend every family function. The topics of the environment and family are very general, rather than specific. If an attitude is specific, such as a valuing family birthday celebration, then the attitude is more likely to affect the behaviour and hence be consistent.

Figure 4.3.8: A specific attitude such as enjoying running on the beach is more likely to have a stronger attitude-behaviour link, than a positive attitude toward exercise in general.

CHECKING FOR UNDERSTANDING

Describe what is meant by a bi-directional relationship between attitudes and behaviour.

Brainstorm some recent topics that people around the world have identified as issues they have an opinion, or attitude about. Think of attitudes that people have displayed through behaviours that have been noticed in the media through protests, advertising, posters, or advertising campaigns.

Choose one of these topics and consider why two people may have very different attitudes to this topic.

Discuss why for some people, their attitude has clearly influenced their behaviour, and for others, there is no obvious outward display of the attitude. In your response discuss attitude strength, accessibility, and specificity for each.

CASE STUDY: DO SMOKING ATTITUDES PREDICT BEHAVIOUR? A LONGITUDINAL STUDY ON THE BI-DIRECTIONAL RELATIONS BETWEEN ADOLESCENTS' SMOKING ATTITUDES AND BEHAVIOURS

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ABSTRACT

Aims: Prevention and intervention programmes focus frequently upon retaining or creating negative attitudes towards smoking in an effort to prevent adolescents from smoking. As the focus upon attitudes is central in these programmes it is essential to know whether smoking attitudes actually precede smoking behaviour or, conversely, are affected by it. Therefore, in the present study we examined to what extent bi-directional relations existed between smoking attitudes and behaviour.

Design: Data were used from the three annual waves of the 'Family and Health' project.

Setting: Participants were asked to complete questionnaires individually at their homes.

Participants: Addresses of families consisting of two parents and two adolescents were obtained from the records of 22 municipalities in the Netherlands. At baseline, 428 families participated with a response rate of 94% at the third measurement.

Measurements: Self-reports were used to assess adolescents' smoking attitudes and behaviour. Associations between smoking attitudes and behaviour were tested using structural equation modelling.

Findings: Findings revealed that smoking attitudes did not predict smoking consistently over time. However, past smoking affected subsequent attitudes moderately, suggesting that adolescents who started to smoke developed less negative attitudes towards smoking.

Conclusions: The current findings imply that smoking behaviour predominantly shapes smoking-related attitudes, rather than vice versa. Focusing merely on smoking attitudes is probably not enough to prevent adolescents from smoking.

DECONSTRUCT AND DESIGN

Critically evaluate the research into whether smoking attitudes predict behaviour by:

- Identifying sources of uncertainty, such as confounding and extraneous variables
- Evaluating the reliability and validity of data.
- Discussing how the sample size and representativeness of the sample could affect the data obtained in this investigation
- Explain the limitations of the conclusion to this study
- Explain why the results of some investigations may not lead to definitive conclusions.

Deconstruct the problem of teenagers' attitudes to smoking.

Design an investigation that enables you to obtain measurable evidence to further the research conducted in the Netherlands by deLeeuw et al.

Note: Teachers may choose to refer to the SACE Board Research Program for Persuasion to guide this D&D Task.

BEHAVIOUR CAN INFLUENCE ATTITUDES

In some cases, people may be unsure about their attitudes. Consider the following scenario. Troy enrolled in a university course, as it was expected that he would continue with study after school. He didn't really know how he felt about the course, as it wasn't something that he was passionate about, but he attended as it seemed to be the right thing to do. Troy also had a part time job at a children's play café. At first, he was unsure whether working with young children suited him, but he persisted, and continued to work there. After some time, Troy discovered he enjoyed working at the cafe, and when he was offered the option of full-time work, versus continuing with his university course, he opted for the full-time work.

Figure 4.3.9: Working in a new job that you are unsure of at first, can help you develop a positive attitude to that career field – an example of how behaviour can influence attitudes.

Over time it turns out that if we engage in a behaviour, particularly one that we had not expected, our thoughts and feelings toward that behaviour are likely to change. Troy learned to love his job, and therefore his behaviour of working influenced both the affective and cognitive components of his attitude, and helped shape his attitude towards deferring university.

HELPFUL ONLINE RESOURCES

To read more about the research about Self-Perception theory, refer to **https://tinyurl.com/4989s6xr**

Self-perception occurs when we use our own behaviour as a guide to help us determine our own thoughts and feelings. According to self-perception theory, when people are unsure of their own attitudes, one way to infer them is by looking at their behaviours. When Troy looked at his behaviours, and the enjoyment he received from work, he was able to work out that his attitude towards work was positive. Everyone has experienced the self-perception effect at some point. For example, when you have had a bad day, and are feeling tired and grumpy, but need to go to sports training. When you arrive at training your teammates greet you with a smile, it is challenging to frown and continue being your grumpy self with friends. Instead, you smile and pretend to be happy. Generally, our original grumpy feelings decrease after smiling and exhibiting "happy" behaviour. This is an example of our behaviour changing our attitude.

COGNITIVE DISSONANCE

Our attitudes are influenced by both internal and external factors. We discussed external communication factors including source, message, audience, central and peripheral routes of persuasion, and direct and indirect experiences.

Internal factors: An internal form of attitude change is experienced through cognitive dissonance or the tension we experience when our thoughts, feelings, and behaviours are not aligned with one another. Psychologist Leon Festinger (1957) defined **cognitive dissonance** as psychological discomfort arising from holding two or more inconsistent attitudes, behaviours, or cognitions

Figure 4.3.10: Cognitive dissonance occurs when thoughts, feelings and behaviours about something conflict.

(thoughts, beliefs, or opinions). Have you ever been out with friends, and tempted to do something you know your parents won't approve of? That awkward, uncomfortable feeling is called cognitive dissonance. To reduce dissonance, you need to change your thoughts, feelings or behaviours, so that they align with one another.

Consider the case of a person who has adopted the attitude that they will no longer eat sugary foods but is tempted to eat a sugary donut. They might attempt to reduce the guilt associated with the cognitive dissonance through one of the four cognitive reduction techniques:

1. Change their behaviour ("I will not eat any more of this donut")
2. Justify their behaviour by changing the conflicting cognition and related feelings ("I like the donut, so I'm allowed to have a little bit of sugar once in a while")
3. Justify behaviour by adding new cognitions ("I'll spend 30 extra minutes at the gym to work this off")
4. Ignore or deny any information that conflicts with existing beliefs ("This donut is not high in sugar")

HELPFUL ONLINE RESOURCES

Follow this link for more information on Cognitive Dissonance, and to check your understanding
https://tinyurl.com/npmzp4n7

CHECKING FOR UNDERSTANDING

Can you think of times you've experienced self-perception? Describe a situation where you have changed your attitude, based on the behaviours you have found yourself doing.

Can you think of times you've experienced cognitive dissonance? Describe what you did to reduce the internal conflict?

Refer to page 253 to revisit your learning from the Stamford Prison experiment.

Now that you have studied the psychology behind obedience, conformity, attitudes and persuasion, explain why, in the Stanford Prison Study, as the guards assumed their roles and began mistreating their prisoners, their attitude towards their prisoners changed.

For more information on this study visit: **https://www.prisonexp.org**

Consistency of attitude behaviour link

The principle of attitude consistency states that for any given attitude the ABCs of affect, behaviour, and cognition are normally aligned with one another. Therefore, it is logical that our attitudes (as measured via a self-report measure) are likely to guide behaviour. For example, a person with a positive attitude toward protecting the environment who recycles paper and bottles shows high attitude-behaviour consistency. But is the link between attitudes and behaviour always this simple? We have already established that attitudes and behaviours are not always consistent through the study of cognitive dissonance. To explore this further, it is helpful to consider some early research on this topic.

Initial research on attitude-behaviour consistency was conducted in the early 1930s. At this time, a college professor named Richard LaPiere was traveling across America with a young Chinese couple. At the time, there was widespread anti-Asian prejudice in America. As a result of this prejudice, LaPiere was concerned whether he and his traveling companions would be refused service in hotels and restaurants. Much to his surprise, only once (in over 250 establishments) were they not served. A few months after the completion of the journey, LaPiere sent a letter to each of the visited establishments and asked whether they would serve Chinese visitors. Of the establishments that replied, only one indicated that it would serve such a customer. While there are a number of problems with LaPiere's study (for instance, there is no guarantee that the person who answered the letter was the same person who served LaPiere and his friends), the study was taken as evidence that that people's behaviour might not necessarily follow from their attitudes.

HELPFUL ONLINE RESOURCES

https://tinyurl.com/26wetfdz

https://tinyurl.com/2wxvspws

Attitudes predict behaviours well only under certain conditions and for some people. These include:

- When the attitude and the behaviour both occur in similar social situations, away from situational pressures
- When the attitudes are measured at a specific, rather than a general level
- For low self-monitors (rather than for high self-monitors)

SITUATIONAL PRESSURES

There is greater attitude-behaviour consistency when the social situations match. Consider peer pressure and the topic of smoking. A high school student, Seiko tells their parents that they hate the idea of smoking cigarettes. Seiko's negative attitude toward smoking seems to be a strong one because they have thought a lot about it—Seiko believes that cigarettes are dirty, expensive, and unhealthy. In a different social situation, under situational pressure from friends, Seiko's attitude will be put to the test. Seiko's attitude is being expressed in one social situation (when they are with their parents), whereas the behaviour (trying a cigarette) is likely to occur in a very different social situation (when when out with friends).

The social norms are of course different in the two situations. Seiko's peer group may be able to convince them to try smoking, through peer pressure, despite their initial negative attitude. Behaviours are more likely to be consistent with attitudes

Figure 4.3.11: High self-monitors are people who tend to try and blend into the social situation in order to be liked; whereas low self-monitors are less likely to do so.

when the social situation in which the behaviour occurs is similar to the situation in which the attitude is expressed (Ajzen, 1991; LaPiere, 1936).

SELF-MONITORING

Self-monitoring refers to individual differences in the tendency to attend to social cues and to adjust our behaviour to the social environment. Attitudes therefore predict behaviour better for some people than for others. If Seiko is a high self-monitor, they will be concerned about being accepted and liked by others, so is likely to be persuaded by peer pressure and might try a cigarette if they are offered one. If Seiko is a low self-monitor, they will not be concerned about what their friends think, and are likely to resist the peer pressure, and their negative attitude towards smoking will match their behaviour.

Because they allow the social situation to influence their behaviours, the relationship between attitudes and behaviour will be weaker for high self-monitors than it is for low self-monitors.

CONSEQUENCES OF INCONSISTENCY BETWEEN ATTITUDES AND BEHAVIOUR

Bringing together our learning from the conformity topic and what we have learned about attitudes, the consistency of attitudes with behaviour, deindividuation, cognitive dissonance, situational pressure and self-monitoring, it makes sense that people tend to conform to the majority of people around them, and in general, tend to behave in a way that is consistent with their attitudes (their thoughts and beliefs).

Mental distress: One consequence of a person's behaviour not always being consistent with his or her attitude is that this inconsistency can cause mental distress. People become stressed, or even distressed when their behaviour is not aligned with their attitude. Think about job satisfaction as one example. If you are unhappy (negative affective component) with your job, because you believe the boss is a bully, or the work is boring, or unfulfilling (low cognitive component), yet you still go to work every day because you need the money (behaviour) – ultimately, this is going to negatively impact your mental health in the long run. To resolve this inconsistency, you are likely to do one of three things:

1. Leave your job and find another one.
2. Change your attitude about your job, and find some enjoyment in it.
3. Continue to remain unhappy in your job, and probably complain about it a lot.

Social issues as a result of inconsistency between attitudes and behaviour could include the impact on people's relationships. If you are unhappy at work, unhappy in a personal relationship, stressed because you aren't studying as hard as you would like to, this is likely to adversely impact on your everyday interactions with work colleagues, friends and family.

Inability to predict behaviour: The other consequence of inconsistency between attitudes and behaviour is the inability to predict behaviour in other people. Researchers often use subjective, self-report methods to gather data about people's attitudes, such as who they might vote for in the next election, or what they think about a topic that is going to be on tonight's news. It is important to understand because facts are often reported as if they are about people's actions when they may only be about what people say they are going to do.

News reporters often make claims about behaviour, based on evidence which is really about attitudes. Data collection methods based on self-report, like

Figure 4.3.12: It is difficult to predict actual numbers for an event, based on people's attitude that they are interested in attending an event.

surveys, and interviews are vulnerable to the attitudinal fallacy if reported attitudes are inconsistent with the behaviour. This makes it difficult to predict behaviours. The digital world, online survey platforms, and other social media enable people to quickly say "yes" to attending an event, as at the time the person had a positive attitude towards attending the event, only to not actually turn up on the day.

Social desirability bias results from inconsistency between attitudes and behaviours. This is because although people may have positive attitudes toward behaviours they see as desirable, they do not actually perform the behaviours as often as they say they do. Studies making claims about behaviours based on reports when behaviours may be seen as desirable may be particularly sensitive to attitudinal fallacy. It is easy for me to say that I dislike something when you have asked me about it, particularly if you are standing right there, and I know I'm going to be on tonight's news bulletin. It is easy to fall victim to social desirability when asked my attitude about things that society in general frowns upon – such as speeding, drug taking, excessive drinking. I might self-report my attitude as negative, but actually behave in a way that is inconsistent with this attitude.

Figure 4.3.13: When asked about attitudes towards a topic, often people will answer in the way they believe they should answer, rather than what they actually think, or would do.

POSSIBLE TEACHING CONSIDERATION

Read the article Changing our attitude to ' waste': **https://tinyurl.com/d5tnbk7n**
Consider the data about "What the World thinks about waste":
https://tinyurl.com/9rrse52v
Read the Abstract for research conducted into attitudes to recycling:
https://tinyurl.com/aacmxjvz

Discuss the inability to predict recycling behaviour from a person's general attitude towards environmental issues

Provide an overview and application of the psychological concepts the Australian Government should be aware of, as they attempt to persuade people to recycle more effectively.

In your answer, refer to the following concepts:

- Factors affecting attitude formation and/or change
- Bidirectional relationship between attitudes and behaviour
- Inconsistencies between attitudes and behaviour
- Persuasion strategies

SCIENCE INQUIRY SKILLS

Refer to the Science Inquiry Skills pages 459 - 463 for further information about methods for gathering data.

MEASURING ATTITUDES

Attitudes can be measured using both objective and subjective data collection strategies.

Behavioural counts

Behaviour counts are an objective method used to measure attitudes. This method is well suited for gathering data about some kinds of issues. For example, it is quite possible to observe students' attitudes towards wearing the school uniform, by directly observing, and counting the number of students wearing correct and incorrect school uniform. From this data, researchers can infer a connection between the behaviour of wearing the school uniform, and the attitude towards school uniform as generally, attitudes and behaviours are consistent. We could also observe an employer in their day-to-day dealings with their employees to assess their attitudes towards them by counting the number of positive and negative interactions.

Due to the inconsistencies between behaviour and attitude, just observing a behaviour, is not necessarily an accurate measure of the attitude. A researcher may observe a person attending church every week for a month and infer that they have a positive attitude towards church. Is this an accurate assessment of this person's attitude, or could there be an inconsistency?

Observation of behaviour, even when the behaviour is the outcome of the attitude being studied, may tell us the direction of the underlying attitude (i.e., whether it is positive or negative), but it cannot as easily indicate the strength of the attitude. It is also difficult to establish the reliability of behavioural measures of attitudes. The observers' perception as well as their ability to report what they have observed vary considerably. These weaknesses, however, do not suggest that observation of overt behaviour is not useful for assessing attitudes, as often this is an easy way to conduct research from a distance, without needing to directly question participants, or have them complete a survey. Care needs to be taken when evaluating the validity and reliability of using a behaviour count for assessing attitudes. The reliability of behaviour counts can be increased by ensuring there is consistency between the behaviours recorded by researchers/observers. This concept is known as Inter-rater reliability which is the extent to which two observers agree on identified behaviour being observed therefore the ratings between researchers will be highly correlated.

Self-Reports

If we want to know how people feel about a certain topic, the best way is to ask them. Self-report questionnaires, or surveys is therefore a common method for studying attitudes. Self-reports surveys have the advantage of directly questioning participants and allowing them to respond with their own perception of their attitude, and the extent to which they agree or disagree with the questions being asked. This is useful for determining how many people are "for" or "against" a particular issue. Free response questions allow

the participants to provide depth to there answer due to the open-ended nature of the questions and thus provide a wealth of qualitative data. On the other hand, fixed response questions provide the participant with a range of options that best fit their attitude or feelings on the topic.

A limitation of self-reports is that social desirability factors can mean responses are not always truthful or accurate. For example, if you were to study people's attitudes toward the government's management of a bushfire crisis when the bushfire was still occurring, many participants may provide an unfavourable attitude, yet share a positive attitude towards the firefighters. Not all people are capable of articulating their thoughts and feelings clearly. A person may possess certain attitudes and behave accordingly but may not be aware of them. Free response data is often hard to summarise or change into quantitative data therefore fixed response questions are often preferred where reports are required to provide a summary of the responses accurately and concisely thus providing quantitative data.

Implicit Association Test

Attitudes that people express are often in conflict with their actual behaviour. With implicit measures like the IAT, researchers hoped to finally be able to bridge the gap between self-reported attitudes on one hand and behaviour on the other. The IAT is typically used to dig deeper than a self-report on issues associated with stereotyping, such as gender roles, racism, sexuality, ageism.

An explicit attitude is the kind of attitude that you deliberately think about and report. For example, you could tell someone whether or not you like math. Implicit attitudes are positive and negative evaluations that are much less accessible to our conscious awareness. Even if you say that you like math (your explicit attitude), it is possible that you associate math with negativity without being actively aware of it. In this case, we would say that your implicit attitude toward math is negative. The IAT asks questions that ask you to indicate a preference for one concept over another, and at the same time, asking whether something is good or bad.

Likert scales and **focus groups** are also common methods of assessing attitudes. Refer to the SIS chapter for a reminder of these methods alongside refreshing your overall knowledge on the strengths and weaknesses.

POSSIBLE TEACHING CONSIDERATIONS

Complete one of the Harvard Implicit Association Tests: **https://tinyurl.com/t5z5yde7**
Which one did you take? How did you do? What surprised you? Explain why you think you scored this way.
Critique the IAT by outlining the advantages and disadvantages of the IAT. Consider the findings in the following articles about the IAT:
https://tinyurl.com/32jc72xy
https://tinyurl.com/2m4ar3ek

There are ethical issues associated with research in the area of social influence.

- Describe how some data-collection techniques could cause physical or emotional discomfort.
- Describe how wellbeing, consent, and privacy rights may be jeopardised in investigations in the area of social influence.
- Describe how deception in investigations can be unethical.

There are ethical issues associated with applications of research findings in the area of social influence.

- Discuss the use of fear as a strategy to motivate behavioural change.
- Discuss the use of knowledge about components of attitudes and elements of persuasion by advertisers, political campaigners, employers, and corporations to change the behaviour of individuals and groups.

2022 Subject Outline | Stage 2

ETHICAL ISSUES IN SOCIAL INFLUENCE RESEARCH CHECKING FOR UNDERSTANDING

Critically evaluate behaviour counts and self-reports as methods for conducting research on attitudes. Select a topic that you would be interested in researching and use this as the basis for your response when outlining the advantages and disadvantages of each method.

Using an example from the Obedience, Conformity or Attitudes and Persuasion topics, describe how some data collection techniques could cause physical or emotional discomfort.

Describe how well-being, deception, consent and privacy rights may be jeopardised in investigations in the area of social influence.

Some advertising strategies include traumatic imagery such as road accidents, images of surgery, even death to communicate their persuasive messages about road safety, healthy eating, quitting smoking, mental health.
Discuss the use of fear as a strategy to motivate behavioural change. Include a discussion of both the psychological arguments for why fear is a successfully persuasive strategy, and the ethical issues associated with this.

Advertising companies, political campaigners, employers and corporations regularly hire psychologists to advise them about best practice in using persuasive strategies to change the behaviour of individual and groups.
Discuss the ethical issues associated with using psychological knowledge to change behaviour of individuals and groups.
Is there a problem with utilising this knowledge? Justify your response using examples.

4.4 PREJUDICE AND DISCRIMINATION

Prejudice is an attitude and is a social issue.

- Explain how prejudice, discrimination and stereotyping are linked.

There are various reasons why people are prejudiced.

- Explain how unintentional biases (including confirmation bias), exposure, and learning could lead to prejudice.

The effects of prejudice are many.

- Describe the effects of social stigma, internalisation of others' evaluations, and stereotype threat.

There are various strategies for changing attitudes and reducing prejudice.

Explicit forms of discrimination are now illegal and socially censored.

- Describe how reluctance to help, tokenism and reverse discrimination are different from explicit forms of discrimination.

2022 Subject Outline | Stage 2

Prejudice, discrimination and stereotyping are linked

The worst-case scenario when humans conflict with one another is crime, war, and mass murder. Stereotyping, prejudice and discrimination often are root causes of human conflict, which explains how strangers come to feel hatred towards one another to the extent of causing others harm.

Humans are very different from one another (thank goodness – life would be very boring if we were all the same!) Although we share many similarities in terms of genetic makeup, biology, universal emotions, and ways of learning, we also have many differences. These differences come about as a result of where we were born, our family circumstances, our personalities, hobbies, interests and groups that we join. The social groups we belong to help form our identities. As people develop strong attitudes of their own, and often seek out likeminded peers who share similar attitudes, any differences between groups of people can be difficult for some people to understand and respect which in turn may lead to prejudice toward people who are different.

Figure 4.4.1: The stereotype of the 1950s housewife – the belief that this was the role best suited for women.

Figure 4.4.2: Prejudice – an emotion such as dislike or hatred of someone who is different to others.

Figure 4.4.3 Discrimination - behaviour that treats some people differently than others.

It would be surprising to have made it to year 12 throughout your schooling, and not witnessed firsthand the effects of stereotyping, prejudice and discrimination in the form of bullying amongst peers. Can you reflect on your own experiences, and identify any examples?

Stereotypes: Prejudice often begins in the form of a stereotype—that is, a specific belief or assumption about individuals based solely on their membership in a group, regardless of their individual characteristics. Stereotypes become overgeneralised and applied to all members of a group. For example, someone holding stereotypical attitudes toward older adults, may believe that older adults are slow and incompetent. Stereotyping includes:

- Categorising people into groups, for example gender, ethnicity, race, physical ability, disability, age, culture, sexuality, social class, occupation or intelligence.
- Assuming that all members of a particular group of people are the same, for example, teenagers throw out of control parties, Russell Coight is a stereotypical Aussie.

Prejudice: Prejudice is usually a negative attitude (both cognitions and feelings) toward an individual based solely on someone's membership in a particular social group. For example, in high school some groups may dislike the footy players, for no good reason, other than they play footy. Prejudice can also be a result of positive emotions, such as favouring the music students by giving them additional time to complete an assignment.

Discrimination: When people act on their prejudicial attitudes toward a group of people, this is called discrimination. Discrimination is an action toward an individual because they belong to a particular group. For example, as a result of holding negative beliefs (stereotypes) and negative attitudes (prejudice) about a particular group, people may treat the target of prejudice poorly, such as bullying them, or leaving them out of social activities.

Figure 4.4.4: Stereotypes are not necessarily accurate representation of people

HELPFUL ONLINE RESOURCES

Watch this video of a social experiment conducted in a park: **https://tinyurl.com/63a6k5rs** that demonstrates the concepts of prejudice, stereotypes, and discrimination. In the video, three people try to steal a bike. The race and gender of the thief is varied: a white male teenager, a black male teenager, and a white female. Does anyone try to stop them? The treatment of the teenagers in the video demonstrates the concept of racism.

Connecting Stereotypes, Prejudice, and Discrimination			
Item	**Function**	**Connection**	**Example**
Stereotype	**Cognitive;** thoughts about people	Overgeneralised beliefs about people may lead to prejudice.	"AFL Collingwood fans are arrogant and obnoxious."
Prejudice	**Affective;** feelings about people, both positive and negative, plus – the **cognitive** thought about people.	Feelings may influence treatment of others, leading to discrimination.	"I hate Collingwood fans; they make me angry, because they are so arrogant and obnoxious"
Discrimination	**Behaviour;** positive or negative treatment of others	Holding stereotypes and harbouring prejudice may lead to excluding, avoiding, and biased treatment of group members.	"I would never hire nor become friends with a person if I knew he or she were a Collingwood footy fan."

CHECKING FOR UNDERSTANDING

Choose a topic such as racism, sexism, elitism, economic status, religion, education, job description, school clique's or any other example, and explain how prejudice, discrimination and stereotyping are linked in your chosen scenario.

How might you design an activity to help members of your school community to reduce the use of stereotypes amongst your student body?

Why are people prejudiced?

Prejudice begins with stereotypes. Unfortunately, stereotypes are often incorrect, or an overgeneralisation of members of a group. How do you feel about the following description of teenagers as being risk takers, lazy, impulsive, binge-drinkers and a danger on the roads? Is it fair to assume that all teenagers fit this category, just because some members of this group meet this description (and often end up visible in the media). Is it fair to stereotype elderly people as forgetful, deaf, stubborn, and hard to get along with? Is that your experience of older people?

Stereotypes play a role in shaping prejudice. Stereotypes are very accessible forms of an attitude, therefore because we can access this information easily about people, we are very quick to jump to assumptions about them as a group. **Prejudice** (meaning pre-judgement) is a judgement or attitude towards a group of people based on insufficient evidence, or incorrect information about a group of people, that doesn't take into account individual differences between the people in the group.

Prejudice focusses on groups of people, and identifiable people within a group, and is not directed towards an isolated person.

The reason why prejudice occurs is found in the psychology of human survival. The human brain can process 40 pieces of information per second consciously but can process 11 million pieces unconsciously. As with anything where people cut corners, mistakes are likely to occur. The human brain likes to organise information into categories to make the world simpler to understand. Prejudice and stereotyping are two examples of the mistakes that result from trying to quickly categorise information about the people we meet.

CHECKING FOR UNDERSTANDING

Write descriptions to stereotype people in the pictures below, then identify the prejudice, or judgement that you might make about each of these people.

Drug addiction counselling session

Stereotype

Prejudice

Young man spraying graffiti

Stereotype

Prejudice

Members of a bikie gang getting together

Stereotype

Prejudice

UNINTENTIONAL BIASES (INCLUDING CONFIRMATION BIAS)

Unconscious biases are essentially automatic, unintentional, inbuilt attitudes that we use when we process information. If an elderly person came through your checkout at the supermarket, you might unconsciously, or unintentionally think to yourself, "This person won't be very good with technology", or "This person probably won't be up to date with what is currently happening on social media", or "I might need to speak slower so they can hear me". These biases affect behaviour and decision making but are often an inaccurate assessment of a person.

Unintentional biases have implications in all sorts of scenarios, the workplace, your sporting team, interactions with the general public. Consider the following unconscious biases and identify an example of where these might occur in the workplace.

	Unintentional Bias	Definition	Example of where this might lead to problems in the workplace
4	**Confirmation Bias**	Confirmation bias occurs when you favour or choose information that fits with your existing beliefs and is selective, meaning that you might overlook or reject information or ideas that don't fit with your current view.	
5	**Attribution Bias**	When something good happens, or we achieve good outcomes we attribute this to our own behaviours. When something bad happens mistakes are made, we attribute this to external factors, other people, or things outside our control.	
6	**Gender Bias**	The tendency to prefer one gender over another. Consider gender bias when hiring new employees, and your preference for working with people in a particular industry.	
9	**Conformity Bias**	Relating to the original research on conformity, this bias is the tendency to behave the same as other members in the group.	

POSSIBLE TEACHING CONSIDERATION

Is bias a factor in police shootings?
Read the following articles to find out.

Read What the data say about police brutality and racial bias — and which reforms might work (nature.com): **https://tinyurl.com/4632h9zx**
Read Police Shootings How A Culture Of Racism Can Infect Us All: NPR: **https://tinyurl.com/nn872v6b**

HELPFUL ONLINE RESOURCES

For more information on these and other examples in the workplace visit: **https://tinyurl.com/m5mcd76**

EXPOSURE

As we discussed in the section on the formation of attitudes, prejudice which is a type of attitude which can be formed through direct and indirect experiences. If you walk to school each day past a group of homeless people who ask you each and every day for some money, this exposure through **direct experience** is likely to help you develop a stereotype, and therefore prejudice about homeless people. You may believe that all homeless people beg for money (our cognition is linked to stereotyping homeless people). You also don't like being asked for money each day (these are feelings which when linked with your cognitions are likely to lead to prejudice).

Figure 4.4.5: Exposure through direct experience can help explain why prejudice forms.

Exposure to stereotypes through indirect experiences such as a friend telling you about their experiences, or seeing regular news articles on TV, or comments on social media can also explain why prejudices form. As we have discovered through this topic of social influence, people tend to conform to the social norms they are exposed to in their daily lives. If your family and friends develop a prejudice towards a group of people, there is a high likelihood you too will develop this same prejudice, until such time that you have your own direct experience and are able to re-assess your attitude.

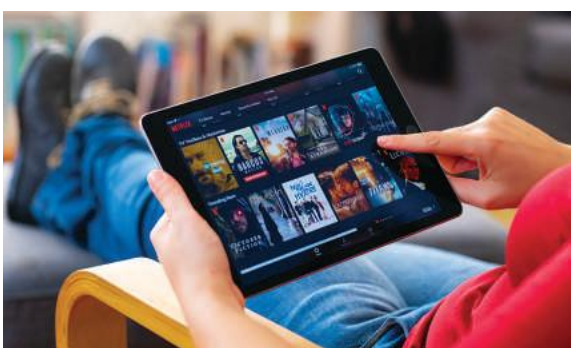


Figure 4.4.6: Exposure through indirect experiences such as the media also helps explain why prejudice forms.

LEARNING

Children are not born with prejudiced attitudes or with stereotypes. Children learn prejudiced attitudes and beliefs from the people around them: their parents, teachers, friends, the media, and the myriad of social media they are exposed to each day.

Social learning theory suggests that prejudice is learned in the same way other attitudes and values are learned, primarily through association, reinforcement, and modelling.

- **Association:** For example, children may learn to associate a particular group with poverty, crime, violence, and other bad things.
- **Reinforcement:** Children may be reinforced for telling derogatory ethnic, sexist, or homophobic jokes; others might laugh along or think they're 'cool'.
- **Modelling:** Children may simply imitate the prejudices of their older family and popular friends.

Refer to **Topic 5 for further details about each of these three Learning theories.**

HELPFUL ONLINE RESOURCES

Watch this video footage titled "Children see, children do": **https://tinyurl.com/wnvmnhmj** Discuss the implications of modelling as a way that prejudice is learned.

Parents play an important role in prejudice acquisition. The relationship between parents' and children's attitudes toward members of outgroups is consistent. Not only do parents teach prejudice directly through reinforcement but children often learn their parents' prejudiced attitudes by simply observing their parents talking about and interacting with people from other groups. As children grow older, peer groups become more important in forming attitudes towards other people.

Figure 4.4.7: Effectively communicating messages that are the opposite of stereotyping, prejudice and discrimination is today's current challenge.

The media have a significant role to play with regard to promoting or not promoting prejudice through social learning. Historically members of socially disadvantaged groups have been stereotypically underrepresented or misrepresented on TV, in popular magazines, and in Hollywood movies. Although we don't see as many examples of stereotyping as we have been previously seen, consider how generations in the past have learned attitudes and prejudice unintentionally.

It's important to remember that parents, peers, the media and other agents of socialisation can also be powerful change agents in teaching values and attitudes that don't lead to prejudice. Schools, employers, sporting organisations, parents, the media, celebrities all have a role to play in reducing stereotypes, prejudice and ultimately discrimination through their messaging.

CHECKING FOR UNDERSTANDING

Conduct a brief online research exercise and find one example of prejudice or discrimination that has occurred in past history, recent history, or that you are personally aware of in your own life. Using your knowledge and understanding from the three theories about why people are prejudiced, analyse **why the prejudice** in your example formed.

Cognitive Verb: Analyse

To analyse information to identify a point of view allows us to discuss a point of view on a topic with evidence.

Note: Analysing in the context of this question, requires you to investigate each of the three theories, and pull together the relevant parts. ***Identify*** *the relationships, similarities and differences between the theories to explain why the prejudice has occurred.*

Effects of prejudice

Victims of prejudice may suffer a range of personal traumas that range from physical, psychological, social disadvantage, to low self-esteem and abuse. Some examples of the effects of prejudice and discrimination are summarised below.

SOCIAL STIGMA

Historically, stigma is a Greek word that referred to a type of marking or the tattoo that was cut or burned into the skin of criminals, slaves, or traitors in order to visibly identify them. These individuals were to be avoided particularly in public places.

Social stigma is therefore the term used to explain the disapproval of, or discrimination against, a person based on a stereotype that they may associate with or be associated with.

Members of stigmatised social groups often face prejudice that causes depression and low self-esteem. Continual insults, denial of equality, exposure to violence, discrimination can threaten your social identity and be psychologically harmful.

Members of stigmatised groups often start to become aware that they aren't being treated the same way and know they are likely being discriminated against. Studies have shown that "by 10 years of age, most children are aware of cultural stereotypes of different groups in society, and children who are members of stigmatised groups are aware of cultural types at an even younger age."

Possible teaching consideration:
Use the following link to discover another form of prejudice: **https://tinyurl.com/4szp38nn**

INTERNALISATION OF OTHERS' EVALUATIONS

Internalised stigma refers to the process in which a person cognitively or emotionally absorbs negative messages or stereotypes that they have heard about and comes to believe them and apply them to themself.

Stigma can affect the behaviour of those who are stigmatised. Those who are stereotyped often start to act in ways that their stigmatisers expect of them. It not only changes their behaviour, but it also shapes their emotions and beliefs.

If you are labelled as a lazy teenager, not capable of getting a job, might you start to act this way, as it is what everyone expects of you anyway? If you are bullied and called a wimp, sook, or baby because you are not very assertive, and are easily upset – might you start to believe that this is who you are, and continue to act this way?

The internalisation of the stigma associated with labelling, or stereotyping can lead to a **self-fulfilling prophecy**. You may not have ever thought you would shoplift, but if you are labelled, stereotyped, bullied and discriminated along with members of your social group, you may eventually change your behaviour so that it is in keeping with the stigma you now associate with.

STEREOTYPE THREAT

Stereotype threat is a situation in which people are or feel themselves to be at risk of conforming to stereotypes about their social group.

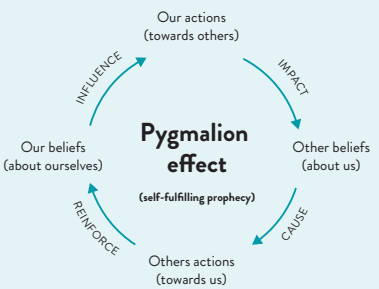
It can be considered a contributing factor to long-standing racial and gender gaps in academic performance.

According to the theory, if negative stereotypes are present regarding a specific group, group members are likely to become anxious about their performance, which may hinder their ability to perform to their full potential.

Complete a quick google search of 'girls outperform boys in education' and you will find article after article that attempts to explain this phenomenon.

Repeated experiences of stereotype threat can lead to a cycle of reduced confidence, poor performance, and loss of interest in achievement.

Stereotype threat has been argued to show a reduction in the performance of individuals who belong to negatively stereotyped groups. Groups include people from low socio-economic backgrounds, different racial backgrounds, gender, and disability.



HELPFUL ONLINE RESOURCES

Watch these videos about Pygmalion in the classroom from the research by Rosenthal and Jacobsen's experiment on the self-fulfilling prophecy:
https://tinyurl.com/tv4yawkx
https://tinyurl.com/5mpxdb7p
Discuss the implications of stereotyping students before a teacher gets to know them on an individual basis.

CHECKING FOR UNDERSTANDING

Read through each of the descriptions about the effects of prejudice. Using your example of prejudice from the previous question, explore the potential **effects of prejudice** for the people you are researching.

Cognitive Verb: Explore

Look into each explanation closely and broadly; scrutinise; inquire into or discuss the effects of prejudice in detail.

Changing attitudes and reducing prejudice

EXPLICIT FORMS OF DISCRIMINATION ARE NOW ILLEGAL AND SOCIALLY CENSORED

In most Western nations in recent years, there has been a lot of action with regard to education and legislation to reduce prejudice. There is a dual role here for governments to legislate retrospectively to change outdated laws, and to act proactively by creating laws that protect people's rights and freedoms in the future. Education also plays an important role in changing existing attitudes, and helping young people form positive attitudes free from stereotypes, prejudice and discrimination.

From the learning we have done earlier in this chapter, there are a number of factors that contribute to sustained attitude change including the psychology of conformity, attitude formation, cognitive dissonance, persuasion, learning, and stigma to name a few. Prejudice is difficult to prevent at a whole country, state, region, school and family level, but once it is embedded it is even more difficult to remove or change.

EXPLICIT FORMS OF DISCRIMINATION

There are laws in Australia which prevent discrimination. The following laws operate at a federal level and the Australian Human Rights Commission has statutory responsibilities under them:

- *Age Discrimination Act 2004*
- *Australian Human Rights Commission Act 1986*
- *Disability Discrimination Act 1992*
- *Racial Discrimination Act 1975*
- *Sex Discrimination Act 1984.*

In addition, South Australia has the: South Australia Equal Opportunity Act 1984.

Under the combination of Federal and State laws existing in South Australia, it is unlawful to discriminate on the following grounds in the following areas:

HELPFUL ONLINE RESOURCES

A quick guide to Australian discrimination laws website created by the Australian Human Rights Commission **https://tinyurl.com/3phjft85**

The Law Handbook: **https://lawhandbook.sa.gov.au/ch17s01s02.php**

Grounds for discrimination	Areas of discrimination
• age • disability • marital or domestic partner status • identity of spouse or partner • pregnancy (or potential pregnancy) • family responsibilities • association with a child (in provision of goods, services or accommodation) • breastfeeding • race • sex • sexuality or chosen gender • religious appearance or dress • political opinion • social origin • irrelevant criminal record • on the basis of having disclosed public interest information to a relevant authority (i.e., whistle-blowers) or having made a complaint of discrimination	• education • employment • accommodation • disposal of interest in land • conferral of qualifications • provision of goods and services • membership of associations

Despite these laws, discrimination still occurs. Examples of discrimination include:

Discrimination	Description	Example	Create your own examples
Reluctance to help	Reluctance to help other groups achieve equal access or improve their position in society by passively or actively not providing assistance.	Poor accessible access for physically disabled employees in a workplace.	
Reverse discrimination (Also called positive discrimination)	Creating prejudice in favour of a minority group.	Deliberately favouring a minority group with an employment policy to ensure equality and inclusion – for example 50% of SA police recruits must be available for females.	
Tokenism	Deliberately giving trivial assistance to a minority group to be seen as inclusive or avoid accusations of prejudice and discrimination.	Employing one woman in a predominantly male organisation.	

CHECKING FOR UNDERSTANDING

Describe how reluctance to help, tokenism and reverse discrimination are different from explicit forms of discrimination.

Strategies for changing attitudes and reducing prejudice

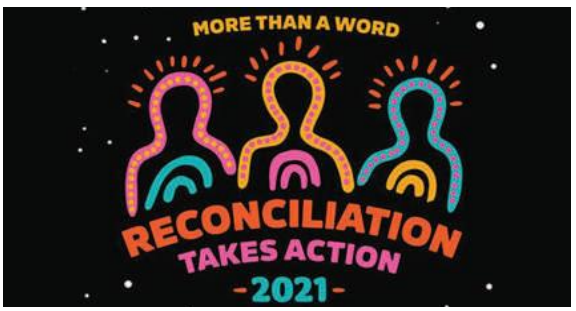
In 19th century Europe, Saartjie Baartman, a South African woman, was paraded before the public in London and Paris as an "exotic exhibit". Ota Benga (1883-1916), an African man, was housed in the monkey house at the Bronx Zoo (New York). There is a long history of the Ku Klux Klan's discriminatory treatment of African Americans, and soldiers in Abu Ghraib resorted to prisoner abuse tactics. Australia's previous White Australia Policy and other related acts of parliament have discriminated against Aboriginal people in the past.

Can confronting past acts of inhumane behaviour help us reduce prejudice today?

Whilst we acknowledge that changing attitudes and reducing prejudice is challenging, the following strategies have proven successful, to an extent.

EDUCATION

The formation of prejudice can be reduced through education programs in schools where children are taught about proactive values such as tolerance, community, the consequences of prejudice and what discrimination looks like. National programs such as "Harmony Day", "Bullying No Way", "Reconciliation Week", "Wear it Purple day" aim to provide awareness, understanding and empathy for living and working together in harmony.



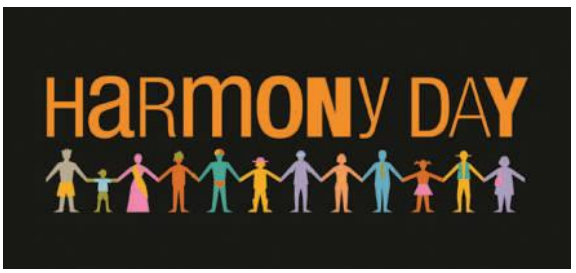


Figure 4.4.8: National programs aim to increase awareness, and decrease prejudice.

INTERGROUP CONTACT

Prejudice can be reduced through direct contact between groups of people who have prejudicial attitudes towards each other. Direct contact alone however is not likely to work, if opposing groups are just expected to "get along" because they are placed together.

The criteria for successful reduction in prejudicial attitudes involve the following factors:

- ongoing interactions and contact between the groups
- mutual interdependence, where the groups participate in cooperative, collaborative activities that require the two groups to work together
- equal status between the groups so there is no hierarchy or dominance created
- explicit social norms established aimed at reducing prejudice.

These factors were established in the classic Robbers Cave experiment aimed at reducing prejudice amongst two groups of boys.

OVERVIEW OF THE STUDY

The Robbers Cave experiment was part of a series of studies conducted by social psychologist Muzafer Sherif and his colleagues in the 1940s and 1950s. In these studies, Sherif looked at how groups of boys at summer camps interacted with a rival group: He hypothesized that "when two groups have conflicting aims… their members will become hostile to each other even though the groups are composed of normal well-adjusted individuals."

The participants in the study, boys who were approximately 11-12 years old, thought that they were participating in a typical summer camp, which took place at Robbers Cave State Park in Oklahoma in 1954. However, the campers' parents knew that their children were actually participating in a research study, as Sherif and his colleagues had gathered extensive information on the participants (such as school records and personality test results).

The boys arrived at camp in two separate groups: for the first part of the study, they spent time with members of their own group, without knowing that the other group existed. The groups chose names (the Eagles and the Rattlers), and each group developed their own group norms and group hierarchies.

After a short period of time, the boys became aware that there was another group at camp and, upon learning of the other group, the campers group spoke negatively about the other group. At this point, the researchers began the next phase of the study: a competitive tournament between the groups, consisting of games such as baseball and tug-of-war, for which the winners would receive prizes and a trophy.

WHAT THE RESEARCHERS FOUND

After the Eagles and Rattlers began competing in the tournament, the relationship between the two groups quickly became tense. The groups began trading insults, and the conflict quickly spiralled. The teams each burned the other group's team flag and raided the other group's cabin. The researchers also found that the group hostilities were apparent on surveys distributed to the campers: campers were asked to rate their own team and the other team on positive and negative traits, and the campers rated their own group more positively than the rival group. During this time, the researchers also noticed a change within the groups as well: the groups became more cohesive.

HOW CONFLICT WAS REDUCED

To determine the factors that could reduce group conflict, the researchers first brought the campers together for fun activities (such as having a meal or watching a movie together). However, this didn't work to reduce conflict; for example, meals together devolved into food fights.

Next, Sherif and his colleagues tried having the two groups work on what psychologists call superordinate goals, goals that both groups cared about, which they had to work together to achieve. For example, the camp's water supply was cut off (a ploy by the researchers to force the two groups to interact), and the Eagles and Rattlers worked together to fix the problem. In another instance, a truck bringing the campers food wouldn't start (again, an incident staged by the researchers), so members of both groups pulled on a rope to pull the broken truck. These activities didn't immediately repair the relationship between the groups (at first, the Rattlers and Eagles resumed hostilities after a superordinate goal was achieved) but working on shared goals eventually reduced conflict. The groups stopped calling each other names, perceptions of the other group (as measured by the researchers' surveys) improved, and friendships even began to form with members of the other group. By the end of camp, some of the campers requested that everyone (from both groups) take the bus home together, and one group bought beverages for the other group on the ride home.
https://www.thoughtco.com/robbers-cave-experiment-4774987

SUPERORDINATE GOALS

Working towards common goals can support knowledge and understanding between groups. This is a particularly useful strategy in schools, and the workplace. However, the goals must be shared and require contributions from both groups, otherwise conflict and further reasons for prejudice, discrimination and the effects of these may continue.

DIRECT EXPERIENCE

Directly experiencing another culture or lifestyle, either in another country or within our own is one step towards creating understanding and empathy for another culture. This may be through learning another language, learning about another culture or cultural immersion experiences. As we discussed in the section on factors affecting attitude formation earlier in this topic, direct experiences create attitudes that are stronger, have greater accessibility and are more durable over time.

Can Watching TV Reduce Prejudice?

Recent experiments suggest that the answer is: Maybe, a little.

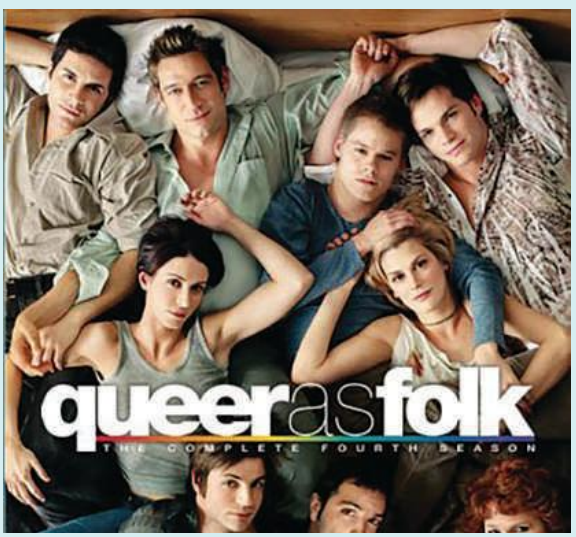


Figure 4.4.9: Popular TV show 'Queer as Folk'.

EXPERIMENTAL EVIDENCE

One of the most recent studies to attempt this was published in 2020 by Bradley Bond. Bond had 108 heterosexual college students complete a questionnaire about their attitudes toward LGBTQI people. He then split them into two groups: one group (the control) did nothing; the other group watched episodes of *Queer as Folk* weekly for 10 consecutive weeks. At the end of the 10 weeks, everyone completed another questionnaire to see if their attitudes had changed. Bond found that the control group›s attitudes remained unchanged and that the *Queer as Folk* groups levels of prejudice decreased.

Figure 4.4.10: A scene from "The Fosters".

Bond's samples were small, there were only 36 people in each group with two different *Queer as Folk* groups, and the results conflict with those of a 2016 study by Traci Gillig and Sheila Murphy. In their study, 362 heterosexual/cisgender and 107 LGBTQI subjects between 13 and 21 either watched nothing or a 10-minute montage from the show *The Fosters* about two gay characters. The researchers found that watching the video increased pro-LGBTQI attitudes for the LGBTQI subjects (to an average of 4.2 on a 5-point scale, compared to an average of 3.9 for those who didn't watch the video), but that it decreased pro-LGBTQI attitudes for the heterosexual and cisgender subjects (to an average of 3.0 compared to an average of 3.3 for those who didn't watch the video).

One key difference between their study and Bond's study was that the subjects only watched

a 10-minute video, not a full episode. Suffice it to say, this isn't exactly how people normally watch TV. And just like you wouldn't expect to really get to know someone in person in only 10 minutes, this probably wasn't enough time for viewers to really identify with and relate to the characters in the way that you can when you watch a full season of a show, like subjects did with *Queer as Folk* in Bond›s study.

THE BEST EVIDENCE SO FAR: REDUCING ANTI-ARAB PREJUDICE

Figure 4.4.11: A scene from "Little Mosque on the Prairie".

Perhaps the best-designed experiment so far to test this question was published in 2017 by Sohad Murrar and Markus Brauer. They looked at prejudice toward Arabs and Muslims after watching *Little Mosque on the Prairie*, a Canadian sitcom about a Muslim community in a small town in Saskatchewan. They split 193 white adults, ranging in age from 18 to 60, into two groups: half watched six episodes of *Little Mosque* and half watched six episodes of *Friends*. They rated their feelings toward a number of groups, including Arabs, before and after watching, and again four to six weeks later.

The researchers found that subjects' feelings toward Arabs became more positive by an average of about 6 points on a 100-point scale in the group that watched *Little Mosque* (there was virtually no change for the *Friends* group), and this change persisted weeks later. This group also showed significantly less implicit bias against Arabs than the *Friends* group, as measured by the Implicit Association Test: **https://tinyurl.com/56dbs597**

Given the large sample size, realistic presentation, and multiple measures of prejudice, Murrar's and Brauer's experiment provides the most compelling evidence for the prejudice-reducing benefits of watching TV. But their experiment still suffers from a limitation that all of these experiments have: It's possible that subjects in the *Little Mosque* condition could have guessed the purpose of the experiment and changed their responses accordingly. Despite the researchers› best efforts, it›s hard to hide the fact that your study is about attitudes toward people from Muslim or LGBTQI communities, when you explicitly ask questions relating to them and then have people watch episodes of a TV show featuring people from these groups.

https://tinyurl.com/2zkjyyew

SCIENCE INQUIRY SKILLS

Choose one of the examples of research aimed at reducing prejudice and critique this research. You should write your response in continuous prose rather than addressing each criterion in separate sentences. Learning to critique research is an important Science Inquiry Skill.

- Identify the hypothesis, independent and dependant variables
- Explain why an experimental design was used for this research, and the advantages of this design for this research.
- Justify the method for collecting the data
- Identify any socio-cultural considerations and suggest how they may have been addressed
- Analyse the data including a discussion of the trends
- Identify any sources of uncertainty such as confounding and extraneous variables
- Evaluate the reliability and validity of the data
- Discuss how the sample size and representativeness of the data could affect the results
- Form a conclusion

Cognitive Verb: Explore

Critical analysis is the detailed examination and evaluation of another person's ideas or work. It is subjective writing as it expresses your interpretation and analysis of the work by breaking down and studying its parts.

4.5 SELF PRESENTATION (IMPRESSION MANAGEMENT)

Social influence operates everywhere, and it is evident on social media. Self- presentation (impression management) involves manipulating others' perceptions of you.

- **Describe how self-presentation would be managed differently on social media than in face-to-face contact.**
- **Explain how the images posted on social media demonstrate and validate self-concept.**
- **Explain why high self-monitors are likely to engage in social media more often than low self-monitors.**
- **Explain the importance of schemata, primacy, recency, and information that is distinctive in impression management.**

Explain why the use of social media could have positive or negative effects on mental health.

There are ethical concerns with the use of social media.

2022 Subject Outline | Stage 2

Self-Presentation

Self-presentation refers to how people attempt to present themselves to control or shape how others (called the audience) view them. It involves expressing oneself and behaving in ways that create a desired impression. Self-presentation is part of a broader set of behaviours called impression management (to be explored later in this topic), which is a conscious attempt to control how others perceive them. This is often achieved by controlling all the information shared in any social interaction (Moeller, S., & Bushman, B. 2007).

Given the rise of interactions occurring on social media, self-presentation has become a pervasive and important feature of social life. There is increased pressure to present positive attributes which may result in some individuals withholding information that reflects 'the authentic self' and misrepresents themselves to gain social rewards, for example, likes or comments on photos by peers and unknown friends of friends. It is not surprising that self-promotion occurs more frequently on social media compared to face-to-face interactions as social media provides the individual with the opportunity to strategically construct the image that they want to represent themselves and to aid in the construction of self-concept. Compared to social media, face to face interactions provide a limited opportunity to employ this form of social influence or share the volume of information that on-line platforms provide. Likewise, on-line presentation removes the opportunity for verbal and non-verbal cues to contradict the image the on-line platforms provide, for example, being socially competent and not socially awkward.

Self-presentation serves three important functions: (1) it helps facilitate social interaction; (2) it enables individuals to attain material and social rewards; and (3) it helps people privately construct desired identities (Brown, 2007).

HELPFUL ONLINE RESOURCES

Further reading: Strategic self-presentation online: A cross-cultural study
https://tinyurl.com/4t3m2dzd

Figure 4.5.1: Showing a social media profile for self presentation.

Self-Concept

Self-concept refers to our private sense of self, who we are and what is it that makes us so. Self-concept helps to build our identity and see ourselves whilst social identity is linked to the perception or belief of how others see us.

Carl Rogers, a Humanistic Psychologist proposed that our self-concept is made up of 3 components:
Ideal self: The person you want to be.
Self-image: How you see yourself, including attributes like your physical characteristics, personality traits, and social roles.
Self-worth: How much you like, accept, or value yourself, which can be impacted by a number of factors including how others see you, how you think you compare to others, and your role in society (Argyle, 2008).

Self-concept is covered in detail in Topic 1. Refer to page 26 to revisit this theory.

Validation

Social media has become a feature in our daily lives and therefore provides a convenient, yet crucial platform to externally engage with self-presentation. Research has shown that our on-line behaviour directly correlates with our sense of self-worth, as well as our psychological wellbeing which will be explored later in this chapter. Wilcox and Stephen (2012) found that social media sites increase self-esteem as people present themselves as socially desirable with a positive self-view to others when online. This, in turn, gives individuals a self-esteem boost, but decreases self-control. (Cited in Samantha Silverberg, 2021). **Validation** of self-concept is achieved by users carefully crafting their on-line presence by posting images

Figure 4.5.2: People seek validation in the form of "likes" through their social media posts.

that show only the most enviable moments and picture-perfect photos that reflect the idealised concept of beauty and success. External validation comes from the number of likes, hearts, smiling faces and comments reinforcing approval of the images shared which aligns with the individual's self-presentation and self-concept, further enhancing self-esteem. Whilst there is opportunity for positive validation there is also validation for the individual unsuccessful in their pursuit for approval. In contrast to the previousprofile, the lack of responses may reinforce negative self-concept despite the on-going attempt at positive self-presentation. There is no shortage of research

highlighting the link between social media use and the development of narcissism, anxiety, depression and low self-esteem.

Donna Wick, EdD, founder of Mind-to-Mind Parenting, says that for teenagers the combined weight of vulnerability, the need for validation, and a desire to compare themselves with peers, forms what she describes as a "perfect storm of self-doubt." *She's so thin. Her grades are perfect. What a happy couple. I'll never be that cool, that skinny, that lucky, that successful."* (Cited Jacobson and Tech, 2021). For further reading: **https://tinyurl.com/y5nd5d2d**

Figure 4.5.3: Demonstrating individual differences in the validation of self-concept through social media

HELPFUL ONLINE RESOURCES

The impact of social media use on appearance self-esteem from childhood to adolescence. Teens shown an image that had lots of likes on social media tended to also like the image: **https://tinyurl.com/b4nkk8em**

https://tinyurl.com/2btuhnev

Is it possible that seeking validation through social platforms provides potentially dangerous validation? Think of a post that could be considered dangerous validation, for example, liking a post of a young person looking in the mirror who clearly has an eating disorder.

1.

2.

High and low Self-Monitors

HIGH SELF-MONITORS:
Worry about their image and how they present to others, they strive to be the best version of themselves in any given situation. This means they change their behaviour based on others around them and have a stronger need to fit in and be accepted. This can of course mean that they behave differently around various people or when the social need arises. Behaviour is ultimately guided by social cues of those around them. HSMs are more likely to engage in strategic use of social media in attempt to validate their self-concept and manage their self presentation. HSMs also exhibit less congruence between their underlying attitudes and their public behaviour. This means they may do and say something that is in conflict with their true beliefs in order to do the right thing in specific social settings. HSMs are also likely to have more social media accounts, followers and 'friends' compared to low self monitors.

LOW SELF-MONITORS:
Are concerned with genuineness, even if it means being the odd person in the room or standing out from the crowd. They are guided by their own true feelings and beliefs in any social situation, even when it sets them apart from the crowd. LSMs tend to have fewer, but closer friends. Compared to HSMs, LSMs have less engagement on social media and refrain from using this as a means of validation and self-presentation. Therefore, LSMs are more likely to have less social media accounts and less 'friends' and followers. Unlike HSMs, LSMs value congruence between their attitudes and their behaviour, which is true to their genuineness.

EXTENDED RESPONSE QUESTION OPTIONS:

1. Discuss why high self-monitors are more likely to engage in social media than low self- monitors.

2. Explain why there may be individual differences in the importance of self-presentation.

3. Compare the role social media plays in self presentation and validation of self concept.

How has science helped society to understand the role of social media addiction and the impact on self-esteem?
https://tinyurl.com/xfm94x4j

HELPFUL ONLINE RESOURCES

Complete the online Self-Monitoring Scale to see if you are a high or low self-monitor.
https://tinyurl.com/bufdufvv

Impression Management

Impression management and **self-presentation** are intrinsically linked given our motivation to influence the impression that others have of us. Managing your image not only aids in leaving a lasting impression on others, but it also helps in attaining goals and being successful in a range of situations, for example, being accepted by peer groups, securing likes on social media and facilitating social interactions. Online impression management is now considered an integral aspect of impression management by controlling the information, photos, and videos that are posted to construct desired identities. Take a moment to consider the images or specific stories on social media you choose to like but scroll past others.

Figure 4.5.4: Demonstrating the stark reality of self-presentation and impression management.

Have you seen a post by someone else and privately agree but choose not to comment or like due to the controversial nature or what message it may send to your followers? Impression management is key to reinforcing and validating our self-concept through our engagement with self-presentation to others both face to face and online.

In psychology, the self is regarded as an expression of relatively stable psychological characteristics. The focus tends to be on individual products of self-construction, whereas sociologists have generally seen the self as a social construction" (Manning, 2005a, cited in Picone, 2015).

Sociologist, Erving Goffman conducted numerous studies on social interaction in the late 1950s and suggested that people are performers with self-presentation being the front of house show which allows the individual to entice and engage the audience in an attempt to control the impression others have of them. Goffman's work contributed to the emergence of Social Psychology allowing empirical research on social interactions and impression management to be studied in a laboratory in comparison to Goffman's observational style. Due to the increasing engagement between people using social media platforms, recent studies have been influenced by Goffman's previous work on impression management and self-presentation. You can read more about impression management in social media in the reading links below.

Figure 4.5.6: Showing the importance of first impressions and impression management.

HELPFUL ONLINE RESOURCES

Further reading: Impression Management in social media: **https://tinyurl.com/y99a9ky8**

The Example of LinkedIn: **https://tinyurl.com/kskkw74d**

FIRST IMPRESSIONS MATTER!

Have a look at the men in the image below. Who would you let provide you with medical care based on your first impression?

Figure 4.5.7: How people present themselves is important for making a first impression.

The **primacy effect** refers to the phenomenon where information received at the beginning carries more weight than the information that follows. This means that the first impression is generally hard to adapt therefore when the individual is provided with additional information, they tend to be drawn to the information that supports their first impression. The cartoon image on the previous page illustrates the importance of first impressions as this will often determine if you have another opportunity to build upon or adapt on this impression. Asch demonstrated the influence of the primacy effect in his study in 1946. Refer to the link below to read a more recent replication of his research conducted by Anna Haas with a group of Year 12 students at a college in Cambridge in the UK.

Have you heard the saying 'you are only as good as your last game, or performance'?

In contrast to the primacy effect, **the recency effect** refers to the phenomenon where the most recent information received carries more weight than information received prior. This means the most recent information provided to us about an individual is more influential in impression formation that previous interactions or information. Many social psychologists have found that people who are described by positive traits, followed by negative traits, are often evaluated negatively, whereas when they were described with negative attributes followed by positive attributes, the were evaluated positively. The primacy and recency effect are generally attributed to cognitive theory as both concepts explain memory processes, however the evidence provided by social researchers supports the role of primacy and recency effects in impression formation.

The primacy and recency effect are not the only contributing factors in impression formation. A **schema** refers to our internal template of what we know and what to expect in any given situation. Our schema generally develops and evolves based on direct experience and indirect learning. It informs our thinking, how we interpret information, what we take in and the memories we form, alongside categorising information to enable us to access information quickly. Imagine your friend asks you to meet them at the park to walk their pet Husky, using the schema you have developed around various dog breeds, it is likely that you will not be shocked when you get there and see their husky as it matches what you expected it to be.

While schemas can be beneficial for learning new information or adding to existing information, they can also compromise our ability to change or adapt our existing schema therefore influencing our behaviour and attitudes based on flawed beliefs and expectations. Our understanding of schema theory, although much debated, helps us to understand the existence and maintenance of stereotypes and prejudice which occur due to generalisations and categorises for groups of people that exist in our current schema; how this developed is another explanation entirely which you may want to explore further when you read the next chapter on Learning.

HELPFUL ONLINE RESOURCES

Further reading: A replication of Asch's (1946) evidence for a Primacy of warmth effect in Impression formation.
https://tinyurl.com/3pefkbax

SCIENCE AS A HUMAN ENDEAVOUR - REAL WORLD APPLICATION

Marketing campaigns and advertisements make sure that positive information is provided at the start and at the end as it leaves a lasting impression.
Judges and Jurors make decisions at the end of a trial once all the information is presented so that they hear all the evidence of the case.

CHECKING FOR UNDERSTANDING

Explain how the primacy and recency effects alongside schema may contribute to decisions made based on the sequence of the material presented in a criminal trial.

Social media

There is no question that social media has changed the way young people engage and communicate with one another, with many researchers questioning if there are implications for how young people function in society. The negative implication of social media is often the one story we hear most, however, it is important to consider the opportunities such platforms can provide.

Figure 4.5.8: Showing a range of available social networking platforms.

Engagement in SM has been explored with reference to learning pro-social behaviours. Prosocial behaviour encompasses helping behaviour, altruism, and cooperation. At this point in time there is very little research into the field of prosocial behaviour of adolescents occurring on-line, however Wright and Li (2011) found a strong positive correlation between engagement in SM with pro-social behaviours and a negative correlation between gaming and online pro-social behaviours. Mares & Woodard (2005) conducted a meta-analysis on the relationship between prosocial media and prosocial behaviour and found that it was 'as easy to persuade viewers to be pleasant as it is to be violent'. Interestingly some researchers have proposed that engaging in online gaming requires the player to work collaboratively with a team to achieve a mutually beneficial outcome. This has long term benefits allowing individuals to transfer their collaborative skills to the workplace.

Emerging research shows that social media platforms, such as Facebook, Snapchat, blogging and Instagram amongst others, have been found to strengthen young people's existing interpersonal relationships whilst, providing the opportunity for young people who live in rural and remote areas to stay socially connected. For these vulnerable young people, it not only prevents social isolation, but provides an insight to the social behaviour and expectations of unfamiliar social experiences. This learning also applies to their rural companions engaged in these social networks. It could be argued that this form of vicarious learning not only enables the development of social skills but plays a useful role in helping people to adapt and function well in novel situations.

In addition to the benefits already explored, social media provides an opportunity for individuals to explore and experiment with their individual identity and self-expression safely. Boyd (2007) suggests that SN can provide young people with a space to work out identity and status, make sense of cultural cues and negotiate public life. Free from adult regulation young people's articulation and expression of various parts of their identity to their friends and others supports critical peer-based sociality (cited Collin, 2011).

Political views and cultural expression can be tested through SM with the reaction from others providing insight to the acceptability of these views. This informal, yet crucial experience will help to guide people around the socially acceptable behaviours and ideals.

Social media platform	% of 13-17 year olds using	% of 18-24 year olds using
Snapchat	69	78
Instagram	72	71
Facebook	51	80
Twitter	32	45
Youtube	85	94

Figure 4.5.9: Demonstrating the prevalence of youth engaging in social networking.

HELPFUL ONLINE RESOURCES

Further reading: The benefits of Social networking
https://tinyurl.com/eb3c6vkt

How Are Scientists Using Social Media in the Workplace?
https://tinyurl.com/sp5vszh8

Mental health

With increasing research on the use of social media showing a correlation between SM use and unhealthy peer comparisons, it is no surprise that there is an increase of youth experiencing mental health challenges. The graph below depicts the prevalence of mental health challenges in Australian youth.

A recent survey found that 97% of teenagers between the ages of 13 and 17 have at least one social media account. Interestingly those suffering from anxiety self-reported spending approximately 89 minutes more per week than the average youth in the same age bracket. Other studies show a positive correlation between engaging with 3 or more SM platforms and diagnosed depression and anxiety.

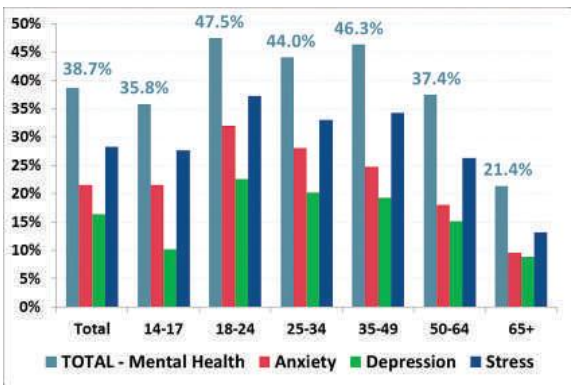


Figure 4.5.10: Depicting prevalence rates of youth mental health.

Source: *Roy Morgan Single Source Australia, July 2018 – June 2019, n=50,057.* **Base:** *Australians 14+.*

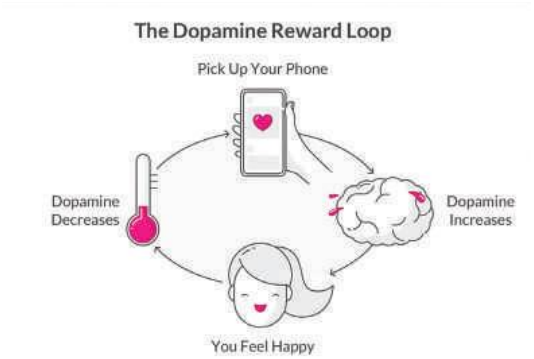


Figure 4.5.11: Showing what is happening as the brain releases addictive hormones during SM use.

Research by Frison et al 2017, found that passive use—simply monitoring others' posts—correlates with depression and lower well-being, whereas active use, including posting and interacting with other users, correlates with better well-being and lower levels of depression (Thorisdottir, 2019).

Media has long been criticised for presenting unrealistic ideologies of beauty and success so it is no surprise that young people can become obsessed with how they look and present themselves on social media. With carefully posed selfies and photographs being a ubiquitous feature of self-presentation on SM, young people are particularly vulnerable when it comes to cultivating the 'perfect' image leaving them susceptible to a range of mental health challenges. According to Leary,et al, (1994) the need to create a perfect image on SM is an influential factor why people spend billions each year on cosmetics products and procedures to enhance their appearance whilst jeopardising their physical wellbeing, e.g. sun exposure and excessive dieting. The ongoing monitoring for approval on their SM accounts has raised question around this being an addictive behaviour. You can read more about this in the suggested reading below.

HELPFUL ONLINE RESOURCES

Further reading: Social media and addiction
Given the activation in the reward centres of the brain on seeing popular pictures on social media, explore the possibility of a person becoming addicted to social media use.
https://tinyurl.com/3tu2xeun

CHECKING FOR UNDERSTANDING

Explain why the use of social media could have positive or negative effects on mental health.

SCIENCE AS A HUMAN ENDEAVOUR - REAL WORLD APPLICATION

How is science helping our understanding of the implications of social media use?
Select one of the research articles below or find your own and consider how scientists are helping society to understand the implications of social media use. Refer to the SHE concepts in the Science as a Human Endeavour topic. Refer to **Communication and Collaboration, Development and Application**, and/or **Influence and Impact** in your response.

Social media use and Disordered Eating

https://tinyurl.com/4b2hscca

Reducing social media use and staying active can help fight off winter blues.

https://tinyurl.com/6me3n9jn

Social Media Use and Its Connection to Mental Health: A Systematic Review

https://tinyurl.com/3y72r5pt

Sydney Cyberpsychology research group. Sydney Cyberpsychology Research group have created a space on YouTube with several engaging talks and presentations on a range of topics related to Social Media use.
https://tinyurl.com/232h3756

Ethical concerns with social media

Given the manipulative nature of how SM platforms are designed, this raises many ethical concerns both for the user and the creators. SM stakeholders have been criticised for using the individual's engagement on all platforms to predetermine which content will be released as adds, pop-up content and generally entice on-going interaction and influence.

In late 2020 a Netflix documentary called: The Social Dilemma explored and revealed the extent of SM companies disrespecting their users' privacy, consent, and most of all, free will. Let's not forget how poorly monitored SM platforms are and the reality that most young people with SM accounts are not of the age recommended for engagement.

Complete the table below to identify the ethical concerns identified in the following sources. You may want to use both to compare. Hints: Look at underage access, access to mature material, risk of harm.

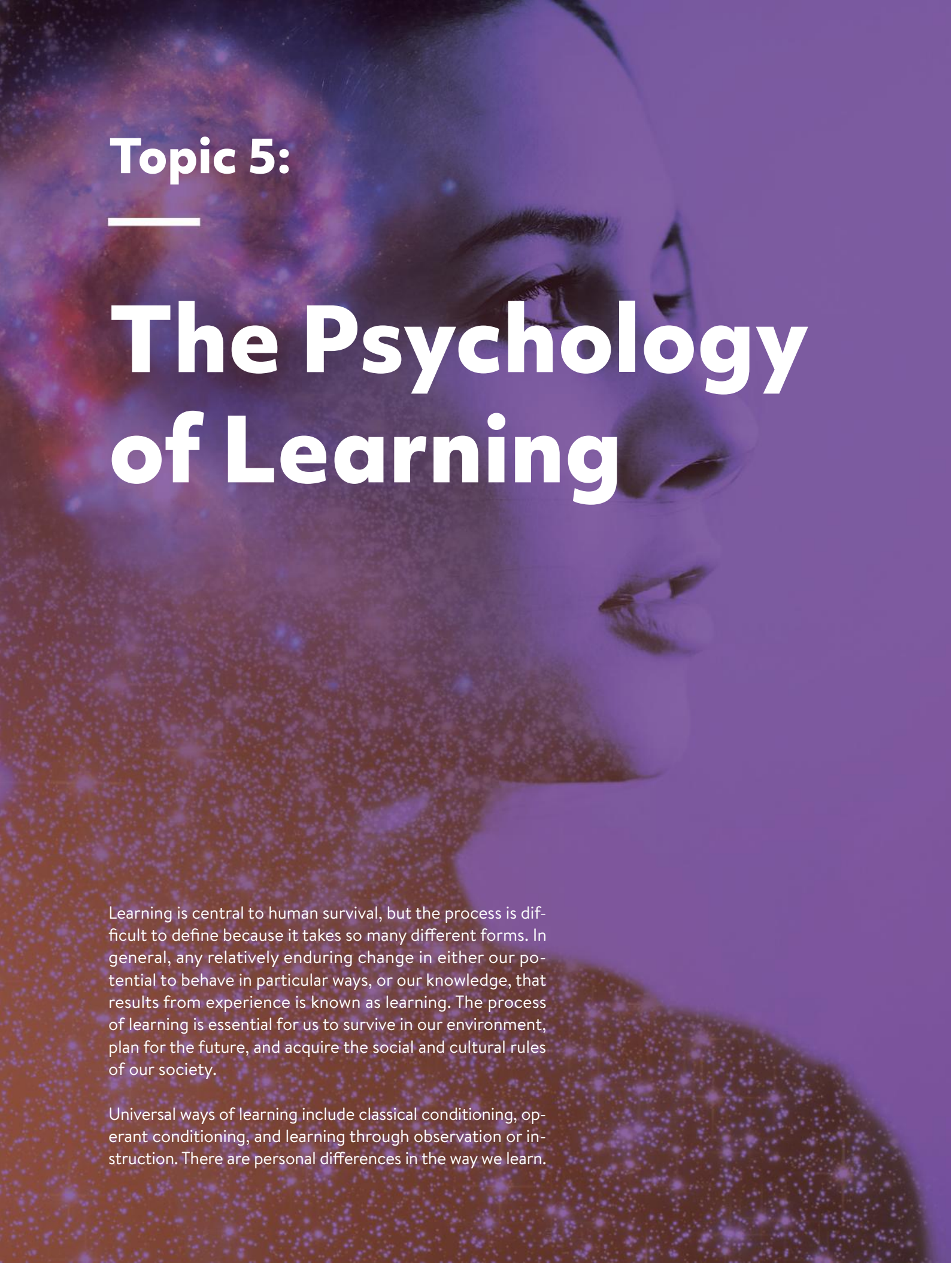
HELPFUL ONLINE RESOURCES

Ethical Issues in Social Media Research for Public Health:
https://tinyurl.com/p63vd6dc

The Social Dilemma
Available on Netflix or you can read about it here:
https://tinyurl.com/4wcxmsa9

Ethical concern	Example	How could this be addressed?
Informed consent		
Privacy	Data sharing	
Risk of Harm		
Voluntary participate		
Anonymity		

TEACHER NOTE: This would be a good topic to complete a SHE task or Extended response question regarding Ethics.



Topic 5:

The Psychology of Learning

Learning is central to human survival, but the process is difficult to define because it takes so many different forms. In general, any relatively enduring change in either our potential to behave in particular ways, or our knowledge, that results from experience is known as learning. The process of learning is essential for us to survive in our environment, plan for the future, and acquire the social and cultural rules of our society.

Universal ways of learning include classical conditioning, operant conditioning, and learning through observation or instruction. There are personal differences in the way we learn.

5.1 CLASSICAL CONDITIONING

- Describe Pavlov's experiment on salivation in dogs.
- Describe the relationship between unconditioned stimuli, conditioned stimuli, unconditioned responses, and conditioned responses in classical conditioning.
- Explain stimulus generalisation and stimulus discrimination.
- Explain the difference between acquisition and performance in classical conditioning.
- Explain the importance of contiguity and contingency in classical conditioning
- Describe how the process of extinction would occur in classical conditioning.
- Discuss the role of biological preparedness in the development of taste aversions and phobias.
- Describe how systematic desensitisation of phobias is used.

2022 Subject Outline | Stage 2

Learning

Psychologists define learning as a relatively permanent change in thinking and behaviour. There are many forms of learning, some of which seem to be instinctual, where no explicit learning has taken place but where the organism innately adapts to their environment. This instinctive behaviour aids the organism's survival. Consider the behaviour of a newborn baby the first time it is presented with their mothers' nipple or bottle teat for feeding, the newborn will immediately suckle without any previous experience. Likewise, aquatic species will begin to swim seconds after they are born, loggerhead sea turtle hatchlings are able to make their way to the ocean and swim. Whilst instinctive behaviour occurs automatically without learning or practice, other forms of learning involves the complex interaction of conscious and unconscious processes.

Classical conditioning

Can you recall a time whereby the mere thought or mention of a particular food has made you retch? Alternatively, picture the response a dog has when it hears its owner with the leash, despite being in another location. This experience is known as a learning process called **classical conditioning**. We experience this in everyday life whereby we associate two or more things together and anticipate a particular outcome.

Like many of the great scientific discoveries, **classical conditioning** was accidental. It occurred during the 1890's when a Russian Physiologist conducted research into the digestive system of dogs. It was during this research that he noted the reflex response (salivation) occurred when the dogs heard the lab assistants approaching at the sight of their food bowl. Pavlov had discovered that the dogs learned to **associate** the lab assistants with being fed and their natural reflex response was salivation; a concept referred to as an unconditioned response (**UCR**).

To explore this phenomenon objectively, Pavlov set about designing several controlled experiments with the aim of conditioning a response to several neutral stimuli that would not otherwise elicit a response from the dogs. Pavlov began to pair food (**unconditioned stimulus**- **UCS)** with a bell (**neutral stimulus**-**NS**). Before conditioning the presentation of the bell (**NS**) would not elicit any response whereas the food (**UCS**) produced a natural reflex response. After repeatedly pairing the food (**UCS**) and bell (**NS**) at the same time, the dog began to salivate, even in the absence of food being presented. This is known as the **conditioned response** (**CR**) thus the dog had learned to associate the bell (**CS**) with food. Essentially the presence of the **CS** (bell) would elicit the **CR** (salivation).

The diagram below illustrates the process of classical conditioning in Pavlov's research.

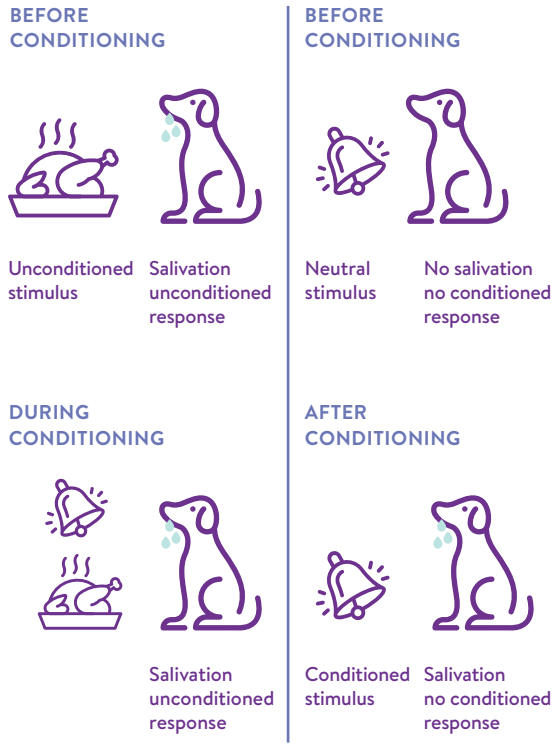


Figure 5.1.1: Pavlov's original research. Case study: Watson and Raynor (1920)

Pavlov's work has had a profound impact on Learning theory which contributed to the development of Behavioural Psychology. The underpinning principles of Learning theory emphasise learning (conditioning) as being acquired by the interaction of environmental stimuli and experiences rather than innate or other biological factors. Whilst Pavlov was able to demonstrate classical conditioning in animals, it was Watson and Raynor who demonstrated this phenomenon applied to humans in their infamous, yet controversial experiment with Little Albert (1920). Watson and Raynor set out to provide evidence that fear could be a learned response using the principles of classical conditioning.

HELPFUL ONLINE RESOURCES

You can watch the study of Pavlovs dogs
https://tinyurl.com/kk65wksj

Classical conditioning The Office.
https://youtu.be/7GrDoEvG4t4

See if you can train Pavlov's dog:
https://tinyurl.com/hvv88cnz

Little Albert was 11 months old when Watson and Raynor set out to provide experimental evidence that phobia can be conditioned. Albert B.'s mother was a nurse in a children's hospital when Watson and Rayner offered to pay her $1 for permission to use her son Albert in a psychological experiment. Albert was described as "healthy from birth" and on the whole "stolid and unemotional". When he was about nine months old, his reactions to various stimuli were tested: a white rat, a rabbit, a dog, a monkey, masks with and without hair, cotton wool, burning newspapers and a hammer striking a four-foot steel bar just behind his head, only the last of these frightened him.

When Albert was just eleven months old, the rat and the loud noise were presented together: as Albert reached out to stroke the animal, Watson crept behind the baby and brought the hammer crashing down on the steel bar!

After seven pairings of the rat and noise across several weeks, Albert reacted with crying and avoidance when the rat was presented without the loud noise. The conditioned fear was then generalised to other similar stimuli even without pairing. A month later, Albert still showed fear when presented with a white rat. His parents withdrew Albert from the study before they had the opportunity to try and extinguish Alberts's phobia.

Little Albert original footage
https://tinyurl.com/484arzmu

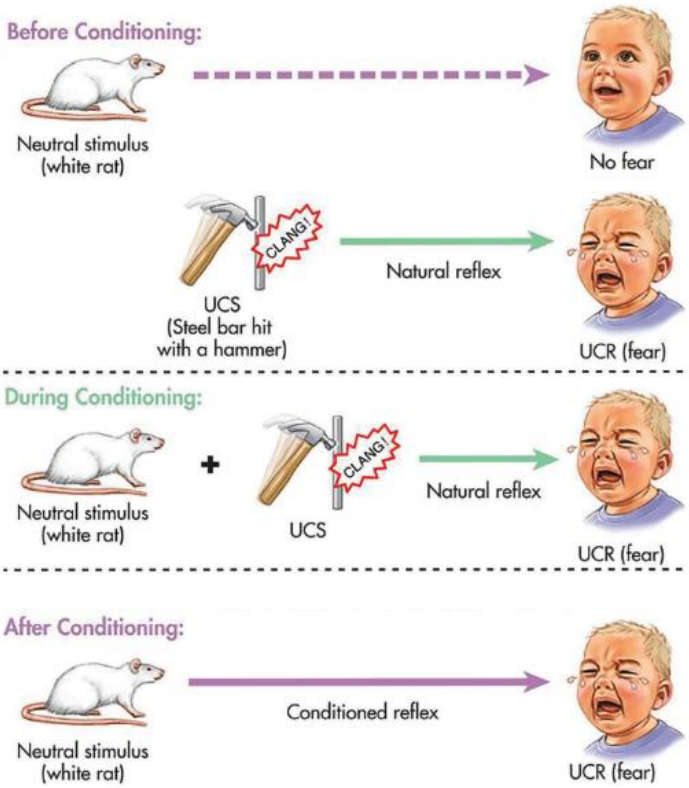


Figure 5.1.2: Classical conditioning of little Albert learning to fear a white rat which previously produced no fear response.

SCIENCE INQUIRY SKILLS (SIS)

1) Identify the key criteria that demonstrate Watson and Raynor's study was an experimental design.
2) Critically evaluate the study of Little Albert, ensure you consider the ethical conduct.
3) Identify the research design you would use to investigate if the ANV response was in fact caused by Classical conditioning.

Stimulus generalisation and discrimination

SCIENCE AS A HUMAN ENDEAVOUR - REAL WORLD APPLICATION

The use of psychological knowledge may impact through beneficial or unexpected consequences requiring monitoring, assessment and evaluation of risk, through ethical considerations.

Nearly 25 percent of patients receiving chemotherapy suffer from anticipatory nausea and vomiting (ANV). This phenomenon occurs as a conditioned response to chemotherapy whereby cola was mixed into the antiemetic drug that was administered prior to chemotherapy.
Due to frequent pairings throughout the treatment, when the patient tastes the once neutral stimuli (cola) its taste will release nausea even if the neuropharmacological effects of chemotherapy have passed. Therefore, in this instance taste becomes a learned stimulus for anticipatory nausea or vomiting. Some patients have noted similar ANV experiences in the absence of the clinic, such as noises and sights similar to the clinic setting. (Anticipatory Nausea and Vomiting - an overview | ScienceDirect Topics, 2020). This occurrence is known in learning theory as **stimulus generalisation** whereby the CR is elicited in response to a similar stimulus despite the absence of the CS.

Stimulus discrimination refers to the ability to distinguish stimulus similar to the CS therefore the CR is not elicited, e.g., being able to tell the difference between cola and coffee despite the colour being the same or in the case of Pavlov's dogs, salivation would not occur when the phone rings as the dog is able to distinguish the differences between the bell like sounds.

CHECKING FOR UNDERSTANDING

Fill in the blanks to illustrate how Anticipatory Nausea and Vomiting was a classical conditioned response.

BEFORE CONDITIONING PHASE

UCS	→	UCR
....		. . ... .

NS	→	No response
....		. . ... .

ACQUISITION PHASE – (DURING CONDITIONING)

NS	→	UCS	→	UCS
... .		. ...		.. . .

PERFORMANCE PHASE – (AFTER CONDITIONING)

CS	→	CR
....		. . ... .

CHECKING FOR UNDERSTANDING

Draw a series of cartoons to show the sequence of Little Albert's Conditioning. Label the diagram below with the terms: Neutral Stimulus, Unconditioned Stimulus, Unconditioned Response, Conditioned Stimulus, Conditioned Response.

BEFORE CONDITIONING PHASE

ACQUISITION PHASE – (DURING CONDITIONING)

PERFORMANCE PHASE – (AFTER CONDITIONING)

CHECKING FOR UNDERSTANDING

Discuss the ethical considerations of conditioning patients (through stimulus generalisation) to now feel nauseous to previously neutral stimulus (such as cola).

LEARNING CHECK

You can find the full document and check your answer at: **https://tinyurl.com/393twt9k**

Acquisition and Performance

Learning is a gradual process which occurs as the organism is increasingly exposed to pairings between the NS and the UCS. If you look back to the diagrams illustrating the process of learning through classical conditioning, you will note the association between the two paired stimuli.

Acquisition is the overall process during which the organism learns to associate two events: the Conditioned Stimulus (CS) and the Unconditioned Stimulus (UCS). It is the initial stage in Classical Conditioning; (note in the illustrations provided it is referred to as during conditioning) the phase associating a Neutral stimulus (NS) with an UCS so that the neutral stimulus comes to elicit a Conditioned Response (CR). **Acquisition** is said to occur when the CS alone produces a CR.

Once learning has occurred, the NS has become the CS and no longer requires the UCS to be present for the CR to occur. This is known as **performance** stage. In Pavlov's scenario, this was when the dog salivated at the sound of the bell, without the food being present.

Contiguity and Contingency

What is crucial during this phase of learning is the time lapse (also referred to as **contiguity**) between the presentation of the NS and UCS, otherwise conditioning will not occur. Think back to the activity where you attempted to train Pavlov's dog being unimpressed with having his sleep disturbed without food being presented immediately. However, if you rang the bell (NS)

and presented the food (UCS) in his bowl closely together, conditioning was successful. The next time the bell rang, the dog immediately awakened and began to salivate due to the expectation of food. This is known as **contingency** (the expectation that the CS will follow).

SCIENCE INQUIRY SKILLS

Complete the table below to demonstrate your understanding of Psychology as a Science. When completing the advantages and disavantages of the research, make sure you identify one specifically to the study rather than only generic responses.

STUDY	RESEARCH DESIGN	ADVANTAGES	DISADVANTAGES
Pavlov's dogs			
Little Albert			
Anticipatory Nausea and Vomiting			

KEY TERMS: CLASSICAL CONDITIONING

An **unconditioned stimulus** is stimulus that elicits an unconditioned response.
An **unconditioned response** is a reflex or innate response. It does not require learning or conditioning.
A **conditioned stimulus** is a previously neutral stimulus that now produces a classically conditioned (learned) response
A **conditioned response** is a learned response to a previously neutral stimulus.
Acquisition is said to occur when the CS alone produces a CR.
Performance is where the CR occurs without the UCS to being present.
Contingency refers to the relationship between stimulus and expectation that one comes with the other
Contiguity refers to the timing of stimulus being presented in order for conditioning to occur.

CLASSICAL CONDITIONING IN ACTION

https://tinyurl.com/336kzn4n

Identify and explain the components of classical conditioning in this video.

CHECKING FOR UNDERSTANDING

Identify the key concepts of classical conditioning in the following scenarios.

Tash ordered a chicken nugget happy meal when she went McDonald's with her mum. After eating the chicken nuggets, several hours later Tash experienced severe vomiting. Now when Tash sees the infamous sign for McDonald's she feels sick. Identify:

UCS

NS

CR

Josh often visits his grandmother's house, where there are flowers. The flowers seem to make Josh sneeze. Even when there are no flowers at his grandmother's house, Josh still sneezes.

UCS

NS

CR

Noah is watching a storm when a bolt of lightning appears followed by a roar of thunder which makes him jump. This happens several times. The storm moves away and the gap increases between the thunder and lightning, however Noah still jumps when he sees the lightning bolt.

UCS

NS

CR

CHECKING FOR UNDERSTANDING

Johnny attended several birthday parties when he was younger. At all the parties there was a clown who would burst the balloons which scared Johnny. He is now fearful of clowns. Explain the process of acquisition and performance using your knowledge of classical conditioning.

Discuss the importance of contiguity in process of classical conditioning.

Bethany was bitten by a German shepherd when she was 3 years old, now when her parents take her to the park and Bethany sees a dog, she becomes fearful and begins to cry. Describe what process has occurred.

Alistair got knocked off his push-bike on his way home from work. He no longer rides a push-bike and has purchased a motorbike instead. Identify the process which has occurred.

Lexi goes shopping with her mother each week and is bought a new toy. However, when Lexi recently went shopping with her sister, she became upset when they left without having bought a new toy. Using the concept of contingency, explain why Lexi was upset.

Extinction and Spontaneous recovery

Whilst learning is considered to be relatively permanent, Behaviourists argue that what is learned can also be unlearned. Think back to Pavlov's original process of conditioning the dogs to salivate. The UCS and the NS were paired to elicit the CR, therefore Pavlov was also able to demonstrate the **extinction** of a CR was possible when the CS is presented several times without the UCS. Extinction is said to have occurred when a CR no longer occurs when presented with the CS.

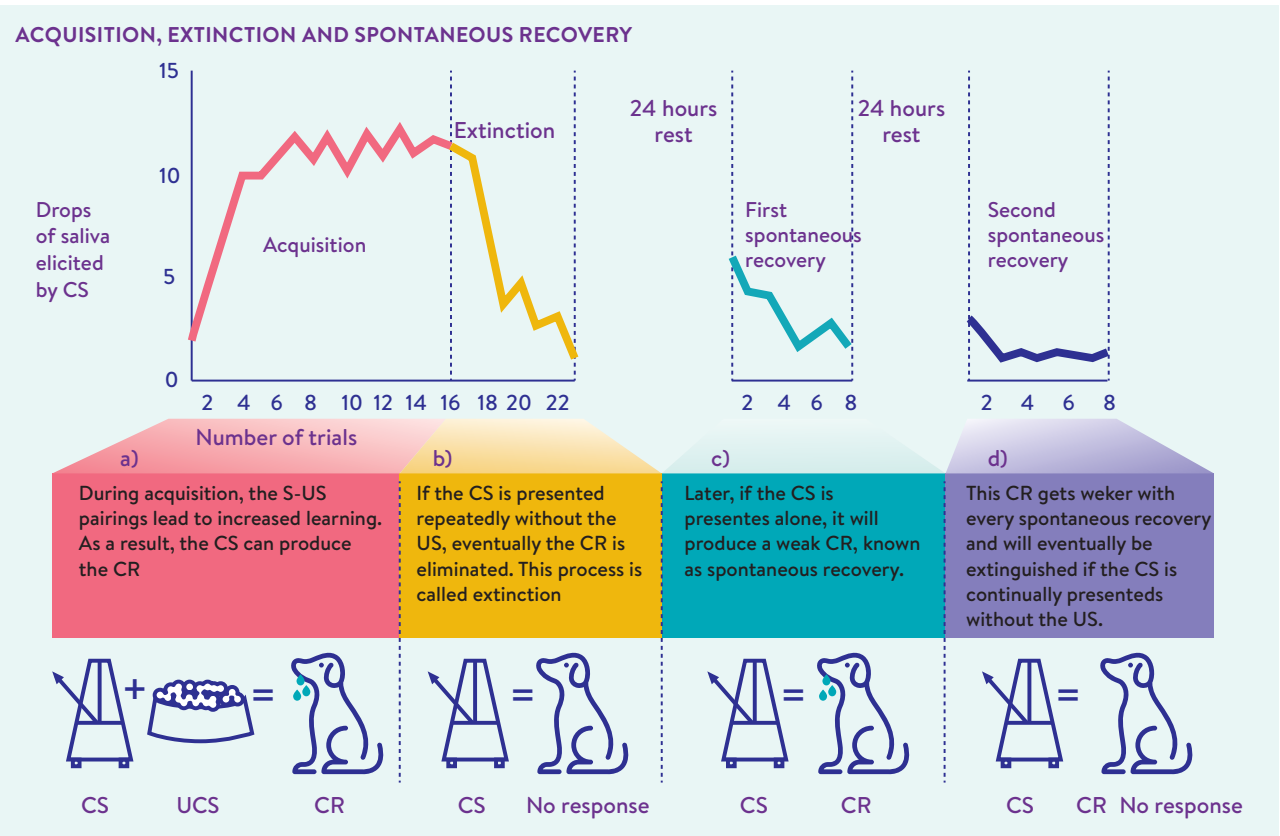
Have another go at training Pavlov's dogs, however this time ring the bell without placing food into the dog bowl and see if you can cause the CR to decrease and eventually become extinct.

Figure 5.1.3: A humorous look at Pavlov's classical conditioning using a bell.

HELPFUL ONLINE RESOURCES

Interative activity to help you learn first hand about extinction of the CR in Pavlov's dogs
https://tinyurl.com/hvv88cnz

Figure 5.1.4: The diagram below shows the key processes involved in classical conditioning both to learn (condition) and unlearn.



It is important to note that extinction differs from forgetting. Forgetting takes time whereas extinction can occur rapidly in a short period of time; Pavlov was able to demonstrate this in one day. Despite extinction of the CR being successful, reconditioning is also possible and occurs much quicker than the original conditioning. This occurs when the CS is reintroduced after an interval of days or weeks and is referred to as spontaneous recovery. However, the animal still remembers that the bell was once informative; so, when a new experimental session begins, the animal checks to see whether the bell will again be informative in this new setting (Rescorla, 2020). Once again, the organism will learn to associate the presentation of the previously paired CS and UCS and **spontaneous recovery** has occurred.

KEY TERMS

Stimulus generalisation occurs where the CR is elicited on presentation of other similar stimulus other than the CS.
Stimulus discrimination occurs when a person or animal responds to the CS only, but not to any other stimulus that is similar to the CS.
Extinction of the CR occurs where the CS is continually presented without the UCS.
Spontaneous recovery occurs after an interval where the CS and UCS are reintroduced, the CS will elicit the CR.

CHECKING FOR UNDERSTANDING

When Sam hears the music of the ice cream truck, they run to the door because their parent usually buys them ice cream. After a few weeks of not getting ice cream, Sam stops running to the door. A month later, they hear the ice cream truck jingle and run to the door. Identify and explain the process that has occurred using the concepts of classical conditioning.

Process:

Explanation:

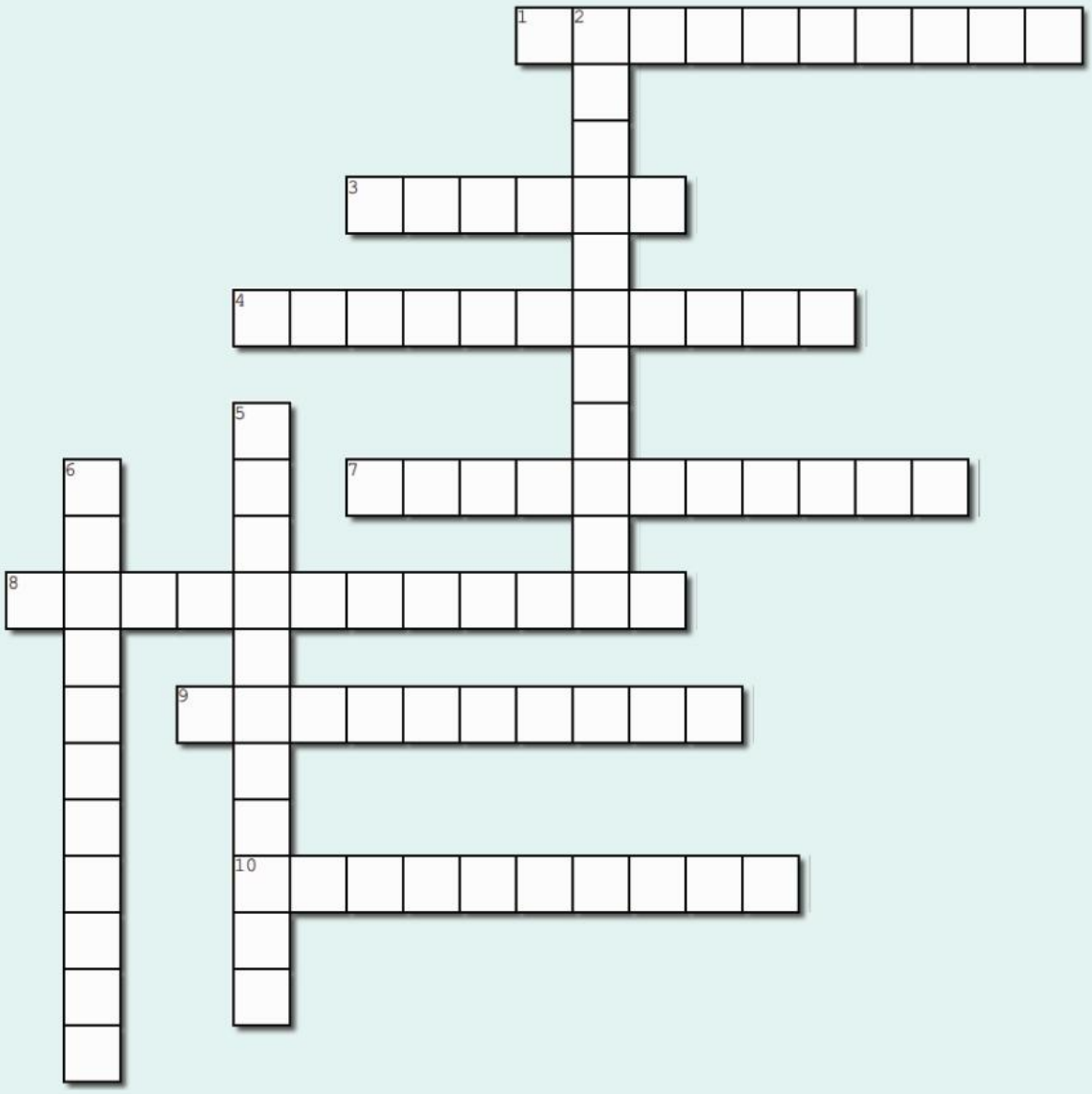
Sam is now 12 years old and no longer runs to the door when they hear the jingle of the ice-cream van. Identify the phenomenon that has occurred.

To stop nail-biting, parents often apply a nail coating which has a foul taste when it is put near the mouth. Explain how this treatment works to prevent nail-biting using the concepts of classical conditioning. Make sure you identify the stages of acquisition and performance.

Explanation:

CLASSICAL CONDITIONING

Complete the crossword puzzle below



Across

1. The CR in Pavlov's dog experiment
3. The main researcher in the study of Little ALbert
4. learning phase during conditioning
7. The predicted outcome due to the association formed between the CS and UCS
8. The UCS is paired with the NS during
9. Learning depends on stimuli being presented closely together
10. This occurs to the CR when the CS is continuously presented without the UCS

Down

2. Classical conditioning is learning by
5. Behaviorists believe learning occurs in ones
6. ___ recovery occurs when the CS and the UCS are reintroduced after an interval

SCIENCE AS A HUMAN ENDEAVOUR - REAL WORLD APPLICATION

Development and Application: Classical Conditioning in advertising

Ironically, as I write this example, I am aware that the Christmas holiday season is fast approaching. Advertisers and retail stores are also in tune with this and are beginning to prepare us for the festive season. It is mid-November and stores are filled with trees decorated with eye-catching decorations whilst the tree branches glisten. Jingle jangles are played on the loudspeakers and like many others, my thoughts and emotions tied with the festive season are stirred. Before leaving the store, I have examined every shelf and made my first Christmas purchase. Cunningly, the visual and auditory stimulus evokes the association of joy and happiness for many which entices those unplanned purchases. Of course, this is not going to be the response for everyone but each one of us will have a Conditioned response based on our own experience of the CS surrounding us.

Perhaps the most successful implementation of associative learning is seen in advertising by their use of celebrity endorsements. Next time you are watching TV, see how many companies use celebrities to sell their product. How and why do they do this? You will cover this in more detail in your study of the topic Social influence, however, briefly, the company is selling you a story of success. Many sports brands (CS) use highly successful athletes (UCS success, achievement of celebrity) when advertising and promoting their products, as the CR for the viewer is the purchase of the product.

Likewise, have you noticed how quickly advertisers are to withdraw and cancel contracts when a celebrity gets into hot water as that fear the individual can no longer be used as UCS to associate with their product (CS), hence a reduction in sales (CR).

CHECKING FOR UNDERSTANDING

Using the correct terminology from classical conditioning theory, explain how one of these ads aims to persuade consumers of the benefits of purchasing their product.

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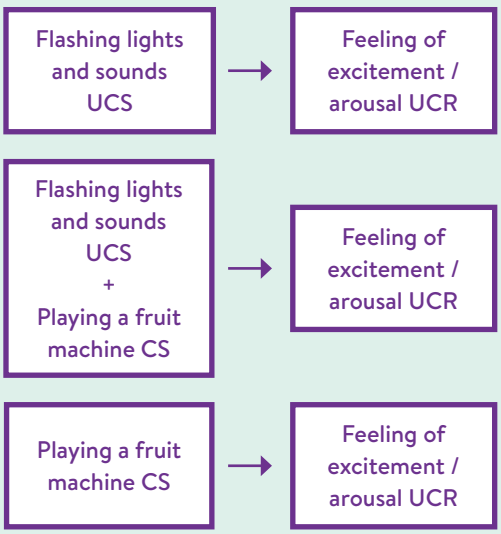
SCIENCE AS A HUMAN ENDEAVOUR - REAL WORLD APPLICATION

Biopsychosocial explanation of addiction.
Addiction and gambling can also be explained by the principles of classical conditioning.



Whilst behaviourism can explain the maintenance and relapse of addictive behaviours it may not fully explain the initiation of these behaviours.

When the individual is presented with a trigger or cue (CS) the association with the addictive behaviour (CR) is strong. This makes it difficult for them to resist their addictive behaviour or makes relapse likely. If the prefrontal cortex has been weakened by the addiction, the individual will have decreased control over their behaviours. Therefore, the power that the CS has over a person is increased even further and it is not likely to be over-ruled by the Pre-Frontal-Cortex (PFC).

Classical conditioning can account for the physiological response when these individuals are faced with environmental cues such as seeing friends or others engage in these behaviours or seeing ads for alcohol or gambling. This can also be applied to cravings that individuals with an addiction can experience.

We identified previously that conditioning generally occurs over time, hence the importance of contiguity and contingency. However, there are some instances whereby conditioning can occur with a single instance between the neutral stimulus (NS) and the unconditioned stimulus (UCS) or even whereby the interval is several hours after presentation.

Taste aversions are a good example of this. Think back to the scenario where Tash experienced prolonged vomiting several hours after eating the chicken nugget in her happy meal. For many years she was unable to consume or even think of chicken nuggets without feeling nauseous. This is an example of a food aversion.

Can you think of a personal experience of this?

So why does this occur so quickly and last for so long?

Preparedness

According to Seligman, this is an evolutionary response that allows us to adapt and survive. Psychologists believe animals and humans alike are biologically predisposed to form associations between stimulus that threaten our survival or expose us to harm. **Preparedness** therefore aids our survival by avoiding these stimuli.

An experiment by, psychologist John Garcia fed flavoured water (a previously neutral stimulus) to lab rats. Several hours later, the rats were injected with a substance (the UCS) that made them ill. Later, when the rats were offered flavoured water, they refused to drink it.

Preparedness also explains why phobias are so easily conditioned such as fear of heights, snakes, spiders.

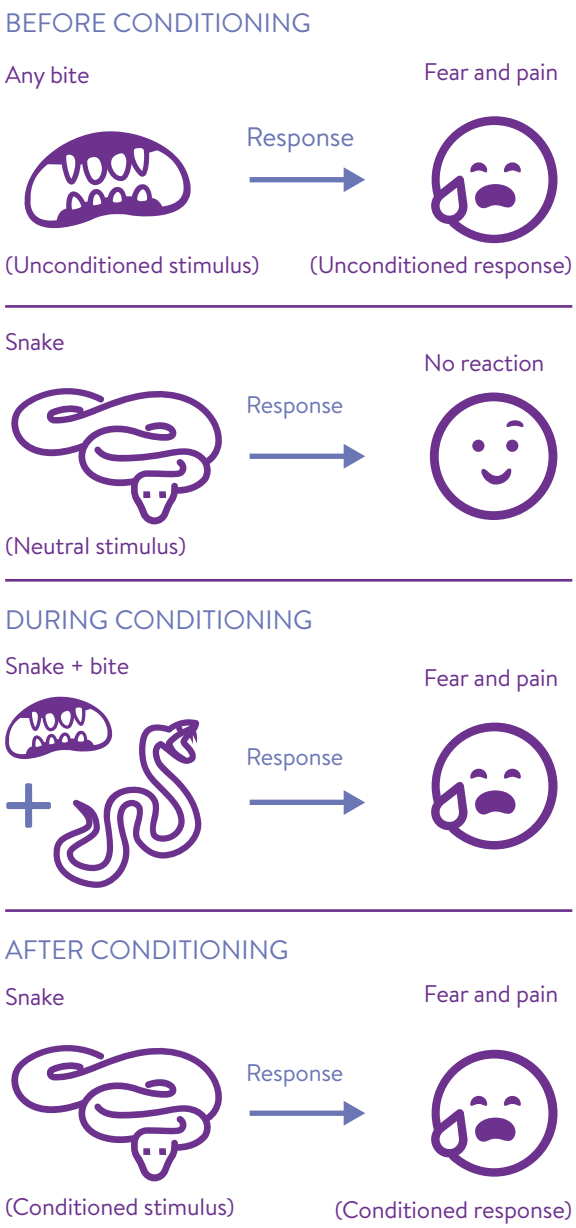


Figure 5.1.5: Classical conditioning process demonstrating how fear of snakes may be learned.

SCIENCE INQUIRY SKILLS

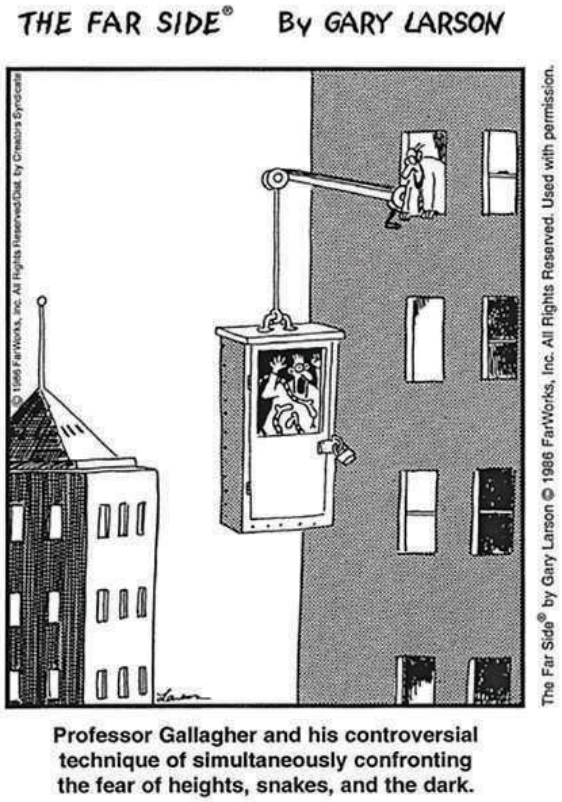
Research in a laboratory compared to real life.
Frontiers | Are Humans Prepared to Detect, Fear, and Avoid Snakes? The Mismatch Between Laboratory and Ecological Evidence | Psychology (frontiersin.org):
https://tinyurl.com/2v4nx47n

PSYCHOLOGICAL INTERVENTIONS FOR OVERCOMING PHOBIAS

Systematic Desensitisation

You are likely to have already looked at systematic desensitisation in the Psychological Health and Wellbeing topic. **Systematic desensitisation** is a behaviour therapeutic tool widely used to modify learned behaviours associated with phobias. This therapy is therefore useful as a treatment for mental health, but has its underpinning concepts in learning theory. This should be implimented under therapist supervision. The premise is to reduce a person's anxiety responses through counter conditioning - a person who learned to be afraid of something is associating fear with that object or behaviour, and the way to eliminate this is to teach the person to replace the feelings of anxiety with feelings of relaxation when the object or behaviour is present. This approach is based on conditioning relaxation with the feared object or object of anxiety.

The method for treating phobias, or any sort of fear (fear of injections, public speaking or even exams) works by the person learning – through classical conditioning – to react to the fear object with a different emotional response instead of fear. The new emotional response is generally relaxation.



Professor Gallagher and his controversial technique of simultaneously confronting the fear of heights, snakes, and the dark.

Figure 5.1.6: Known as flooding or exposure therapy, some people believe that merely exposing you to your fear will help you overcome it.

Step 1 – The person is taught a relaxation technique such as deep breathing, or counting to 10.

Step 2 – The person is taught to write a list, called a hierarchy of fears beginning with the least feared and increasing up to the most fearful situation they can imagine.

Step 3 – While in the state of relaxation, the person attempts the first item on their hierarchy, either actually or by visualising it. When this has been done, they attempt the next step on the hierarchy. They continue systematically up the hierarchy until the fear has become desensitised.

With the repeated pairing of relaxation and fear situations, the individual will become conditioned to respond to the previously feared situations with a response of relaxation instead of fear. Thus, any maladaptive behaviours we learn such as phobias, can be unlearned.

HELPFUL ONLINE RESOURCES

https://tinyurl.com/y8ya39fr

https://tinyurl.com/3v2hxw4h

SCIENCE AS A HUMAN ENDEAVOUR (SHE) OPPORTUNITY

Teachers might consider contemporary research into changes to the way psychologists treat phobias in their patients. For example researching flooding, systematic desensitisation and cognitive behaviour therapy.

CHECKING FOR UNDERSTANDING

Systematic desensitisation is covered again in Topic 2 "Psychological Health and Wellbeing" as an intervention for managing phobias. For more opportunities to practice application of this concept, please refer to page 157.

Think of something you are fearful or use one of the scenarios above. Construct a hierarchy of fears from least fearful to most fearful for this phobia.

Scale	Fear Situation
0	
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

Make a list of the steps you would take to complete Systematic desensitization based on your chosen phobia.

1. .....
2. .....
3. .....
4. .....
5. .....
6. .....

HINTS AND TIPS FOR SHORT ANSWER QUESTIONS (SAQ) AND EXTENDED RESPONSE QUESTIONS (ERQ)

Cognitive verbs are the words at the start of a question that indicate what you are required to do. At the lower level cognitive verbs such as 'Name' or 'Identify' require a SAQ response, thus no explanation or expansion on the answer is required.
For example: *Identify the disorder Johnny has developed.*

As the cognitive verbs become more demanding, a higher level of thinking, processing and understanding is required to respond to the question.
For example, cognitive verbs such as 'explain', 'discuss', 'justify' require further elaboration or explanation and a link to both theory and the scenario in order to provide the response required.
For example: *Explain why this behaviour is classified as a phobia.*

It is important to note that the general rule is that the higher up Bloom's taxonomy of cognitive verbs you go, the longer your response should be in order to answer the question appropriately.
For ERQ's you might like to remember the acronym "PEE".
Yes, make your **point**, **explain** and give an **example**. Extended responses generally require your answer to link back to the scenario presented to demonstrate your application of knowledge to situations.

CHECKING FOR UNDERSTANDING

Pamela has gone to the beach with her friends; however she will not go into the water as she has a fear of drowning. Explain how systematic desensitisation could help Pamela overcome her fear of drowning.

. ...

. ...

. ...

Explain how a phobia of spiders can occur using the principles of classical conditioning. Make sure you refer to the phobia identified in your answer.

. ...

. ...

. ...

Consider Watson and Raynor's experiments on Little Albert when researching stimulus discrimination and stimulus generalisation.
Describe the ethical issues associated with this research.

.. ..

.. ..

Associations between images of spiders and avoidance behaviour can be learned more quickly compared to associations between images of flowers and avoidance behaviour. This is known as preparedness. Explain this concept.

.. ..

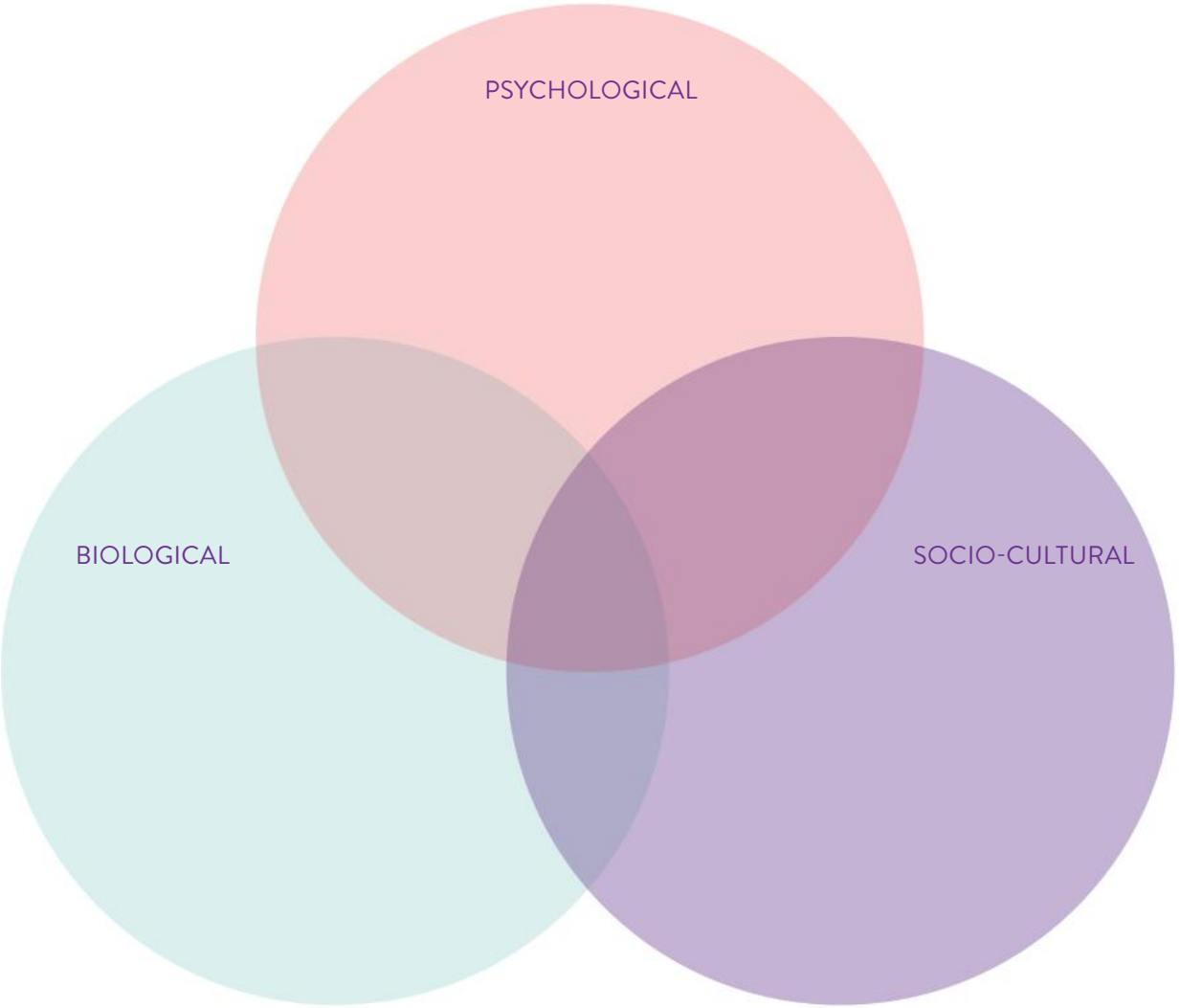
.. ..

SCIENCE INQUIRY SKILLS

Research on the internet for studies conducted on Learning using the principles of Classical conditioning. This could include, but are not limited to, Phobias, treatment of Phobias, Addiction including gambling, drugs and alcohol, social media or shopping.
Once you have selected your research complete the following table.

RESEARCH OUTLINE	TYPE OF DATA	ADVANTAGES OF DESIGN	DISADVANTAGES OF DESIGN	CULTURAL IMPLICATIONS	ETHICAL IMPLICATIONS

Identify key concepts which contribute to the development of a phobia or addiction.



Teachers' note: This activity could be used to help scaffold a SHE task or extended questions, for example:

Extended response: Discuss the development of a Phobia using your knowledge of the Biopsychosocial model.

SHE: Most maladaptive behaviours and mental disorders can be conceptualised as the result of developmental dysfunctions of psychological functions and processes, and as associated neurobiological and genetic processes in interaction with behaviour and the environment.

IDEAS FOR A SHE TASK:

- Investigate how psychologists have contributed to either, the development and application, or influence and impact in the treatment of mental illness.
- Explore psychologists role in the development and implementation of programs to support rural communities during COVID.
- Compare how historical perspectives of the acceptance and treatment of phobias have changed over time.

5.2 OPERANT CONDITIONING

Operant conditioning is a learning process in which the strength of a behaviour is modified by the consequences following the behaviour.

- Explain how punishment is different from reinforcement.
- Describe the differences between positive reinforcement and negative reinforcement.
- Describe the differences between aversive punishment and response cost in operant conditioning.
- Explain why, in attempts to change behaviour, reinforcement is favoured over punishment.
- Explain the importance of contiguity and contingency in operant conditioning.
- Use examples to describe fixed and variable schedules of reinforcement, and ratio and interval schedules of reinforcement.
- Describe how schedules of reinforcement affect learning, extinction and performance.
- Explain how operant conditioning could be used to shape a particular behaviour.
- Use operant conditioning to explain the placebo effect.

2022 Subject Outline | Stage 2

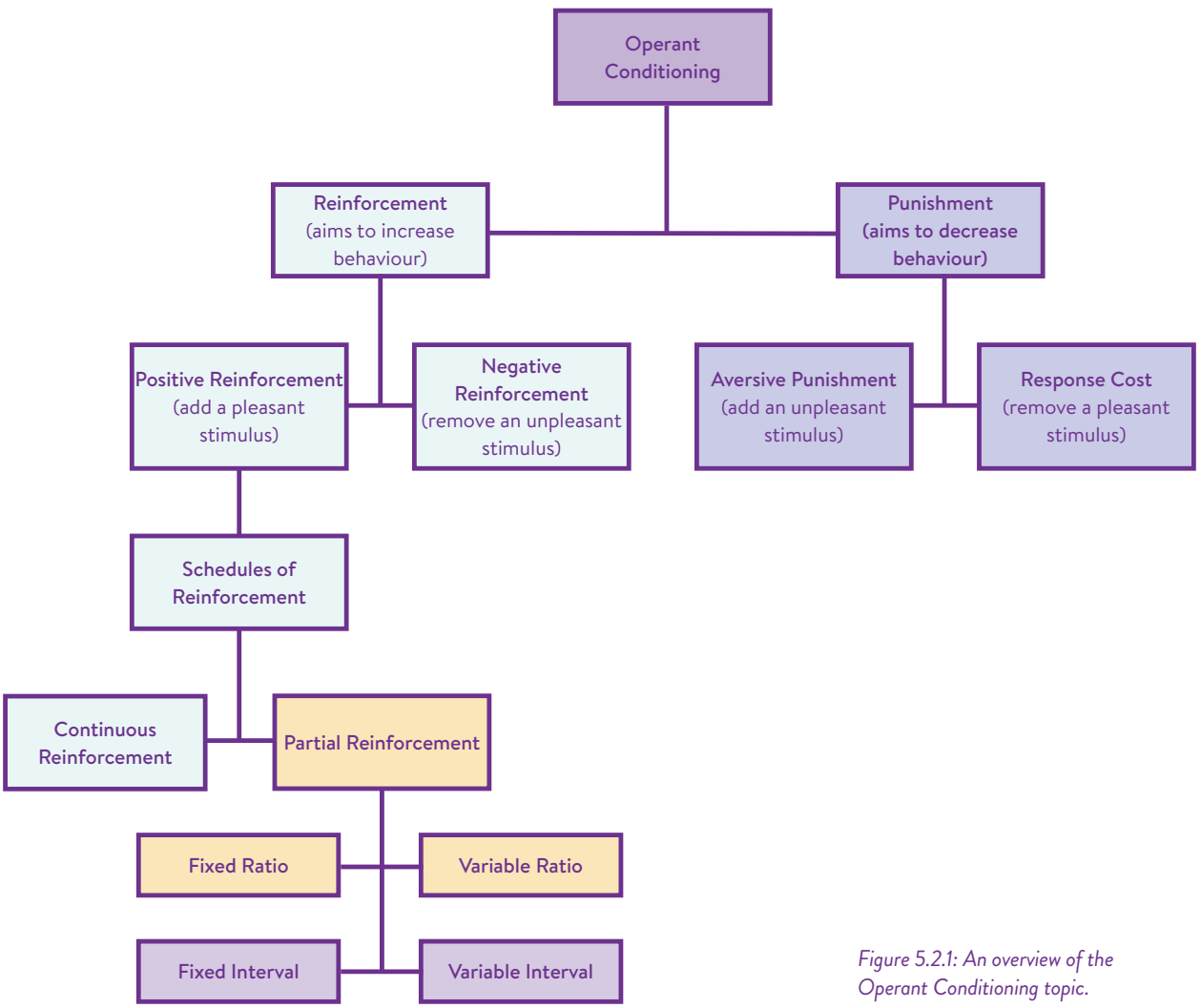


Figure 5.2.1: An overview of the Operant Conditioning topic.

Operant conditioning is a learning process in which the strength of a behaviour is modified by the consequences following the behaviour.

Skinner is regarded as the father of **operant conditioning**. In the 1930s B.F. Skinner began experimenting with rats and pigeons. Using food as a reward, he trained the animals to perform certain voluntary behaviours such as turning in a circle when a light flashed or pressing a lever when a bell rang. Behaviourism refers to a psychological approach emphasising scientific methods of investigation. The approach is only concerned with observable stimulus-response behaviours and states all behaviours are learned through interaction with the environment.

According to this principle, behaviour that is followed by pleasant consequences is likely to be repeated, and behaviour followed by unpleasant consequences is less likely to be repeated.

Consider the purpose of **reinforcement** in concrete. Reinforcement *strengthens* the concrete, allowing heavy vehicles to drive on it without cracking it.

Figure 5.2.2: Reinforcement means to strengthen something. Metal reinforcing is used to strengthen concrete.

The term **reinforcement** was used similarly by Skinner to describe what happens when a **behaviour is strengthened**.

Essentially Skinner reasoned that behaviour that is reinforced tends to be repeated (strengthened) while behaviour that is not reinforced tends to die out or weaken.

Note: the difference between Classical and Operant conditioning –
Classical = involuntary responses
Operant = voluntary responses

Figure 5.2.3 Skinner used pigeons and other animals in his research. He kept them underweight so that they were always hungry.

Figure 5.2.4 Skinner used pigeons in many of his experiments. Through reinforcement and punishment, the pigeons could be trained to press either the red or green button to receive a food reward.

HELPFUL ONLINE RESOURCES

Listen to BF Skinner talk about his research:
https://tinyurl.com/jc6n8we3

SCIENCE INQUIRY SKILLS

1. Discuss the ethical issues associated with keeping animals such as pigeons and rats below their healthy weight range for the purpose of experimentation.
2. Identify the independent and dependent variables Skinner has used in his experiments.

"Independent Variable is what we change, Dependent Variable is what we measure"

CHECKING FOR UNDERSTANDING

What do you already know?

Consider the following scenarios: See if you can identify the behaviour and consequence in each of these scenarios, then consider whether the strength of the behaviour is likely to increase (be repeated) or decrease (not be repeated again)	**Behaviour**	**Consequence**	**Will the strength of the behaviour increase or decrease?**
A dolphin performs a trick in a show and receives a fish in return.			
Your friend gives you a big hug when you surprise them with a gift for their birthday.			
When your parents consider you aren't doing enough homework, they take your mobile phone away for 2 hours.			
Your parents take you out to dinner to celebrate excellent results on your end of term report.			
You wear a new outfit to a party and receive lots of compliments.			
You are pulled over the by the police at 12:05 pm whilst driving home one evening. They remind you of the 12:00am curfew for P-platers. From now on, you always make sure you are home by the 12:00am curfew.			

Elements of Operant Conditioning

REINFORCERS AND PUNISHERS

Reinforcers and punishers are key elements in operant conditioning. They can either be positive or negative.

Skinner designed a chamber that became known as a "Skinner Box". By placing hungry rats into this box, Skinner was able to study operant conditioning through conducting **experiments** with animals.

By using different types of reinforcement or punishment, Skinner could change the behaviour of rats inside his box.

Reinforcer: any stimulus (action or event) that strengthens or increases the likelihood of a response (behaviour) occurring again.

Punisher: any stimulus (action or event) that weakens or decreases the likelihood of a response (behaviour) occurring again.

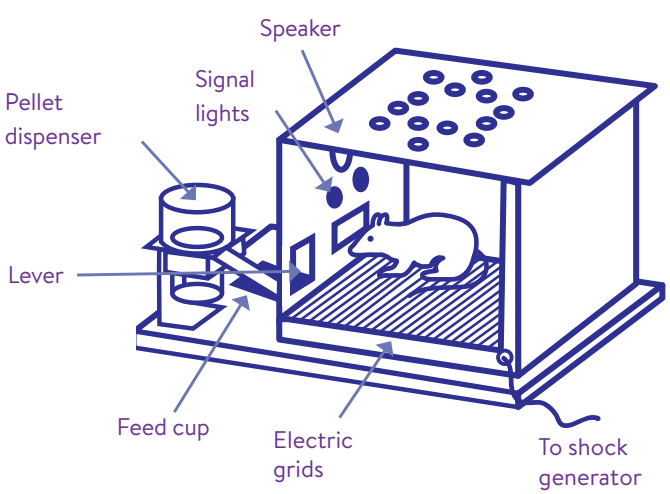


Figure 5.2.5: Nicknamed a "Skinner box", B.F. Skinner used this device to experiment on different ways of operantly conditioning animals such as rats to produce or stop producing a behaviour.

Reinforcement aims to strengthen behaviour

There are two type of reinforcement

POSITIVE REINFORCEMENT

Skinner demonstrated how positive reinforcement works by putting a hungry rat in his Skinner box. The box was designed with a lever that triggered a food pellet to drop into the box when it was pressed by the rat. After several trial-and-error attempts at touching various parts of the box, the rats learned to go directly to this lever and press it, in order to receive the food. The food acted as a **reinforcer**. The behaviour that was increased was the behaviour of pressing the lever.

In summary—the positive consequence of being rewarded with food after pressing the lever taught the rats to repeat that action over and over again.

An example of this in a more realistic situation is receiving a good grade after completing your assignment for your teacher. If your teacher gives you an A grade for finishing your assignment to a high standard, then you are more likely to repeat this behaviour for your next assignment. Essentially the behaviour of completing your assignment to a high standard has been strengthened through positive reinforcement.

NEGATIVE REINFORCEMENT

This is the *removal* of an *unpleasant stimulus.* Essentially, removing an adverse stimulus is rewarding to the animal/person, thus strengthening a particular behaviour.

Skinner demonstrated negative reinforcement by having the electric grid in the Skinner box turned on when the rat was placed into the box. The grid gave a mildly painful shock to the rats' feet similar to

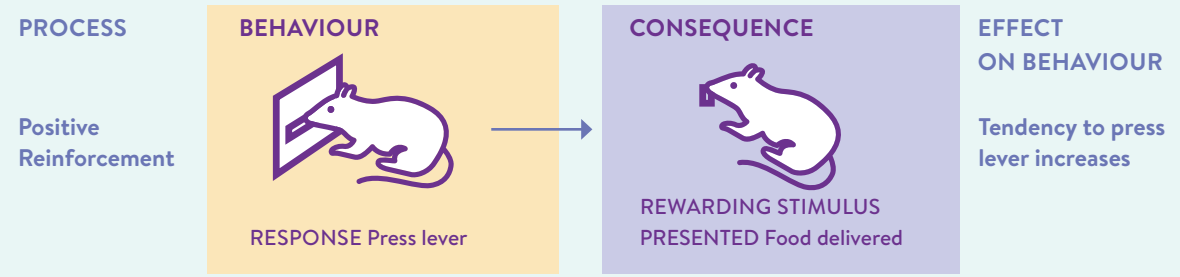


Figure 5.2.6: Skinner provided positive reinforcement in the form of a food pellet when the rat demonstrated the correct behaviour.

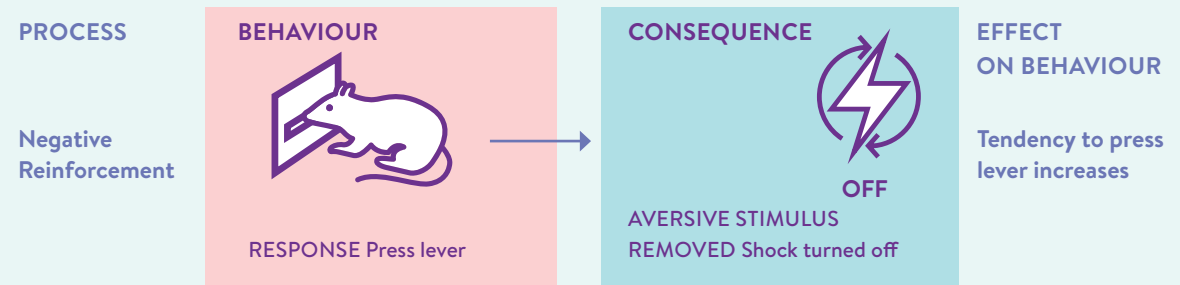


Figure 5.2.7 Skinner provided negative reinforcement by turning off the electric shock when the rat demonstrated the correct behaviour.

pins and needles. The electric shock could be ***turned off*** when the rat pressed the lever. The rats quickly ***learned*** to run straight to the lever to turn off and escape the shock – their behaviour of pressing the lever was ***reinforced*** – not because they received something pleasant (like the food pellet) but because they ***removed*** the **electric shock**.

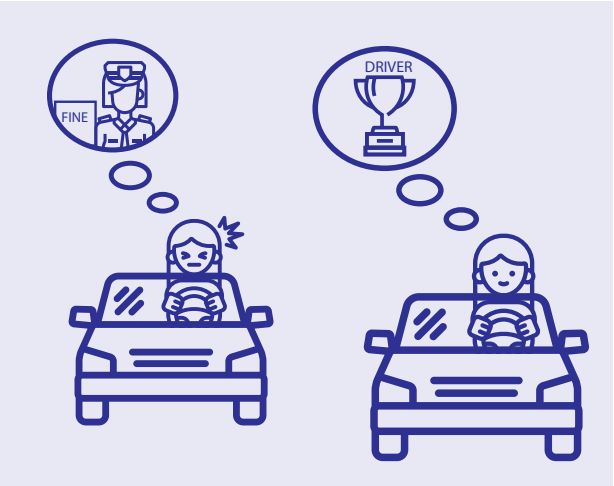
To better understand negative reinforcement, consider the last time you were at a supermarket, and you saw a parent and a young child at the checkout. The child is cranky and keeps whining and crying to her mother about wanting one of the treats on the checkout shelf. To *remove* the child's embarrassing cries *(unpleasant stimulus)* the parent gives in and buys the treat.

This removes the unpleasant stimulus of the child's whining, while reinforcing the behaviour of the parent to buy a treat at the checkout next time.

Figure 5.2.8: Skinner provided negative reinforcement by turning off the electric shock when the rat demonstrated the correct behaviour.

HELPFUL ONLINE RESOURCES

Watch this clip from **The Big Bang Theory** to see Sheldon Cooper use Positive Reinforcement to alter Penny's behaviour:
https://tinyurl.com/e6t2rasu



COMPARING POSITIVE AND NEGATIVE REINFORCEMENT

Positive Reinforcement: Matilda drives safely and obeys all the road laws so that she can become a rating #1 driver and save on her insurance premiums.

Negative Reinforcement: Emily drives safely and obeys all the road laws to *avoid* getting any more traffic fines and licence demerit points.

Figure 5.2.9: Both Matilda and Emily are both reinforced for driving safely, but for different reasons.

CHECKING FOR UNDERSTANDING

Identify which elements of operant conditioning (positive reinforcement or negative reinforcement) are present in the following scenarios:

	Positive reinforcement/ Negative reinforcement
Patting your dog on the head when he sits on command	
Receiving a high score on your end of year exam	
Putting an umbrella up so you stop getting wet in the rain	
Receiving a smile and thank you when you help someone	
The car stops its annoying beeping sound when you put your seatbelt on	
You receive a free water bowl for having your dog on the leash at the beach	
Your headache goes away when you take a Panadol tablet	
Your friends laugh when you tell a funny joke	
Your mum turns down your loud music as it is giving her a headache	

CHECKING FOR UNDERSTANDING

If Jenny leaves the fridge door open while making her sandwich, it makes a continuous beeping sound. Jenny finds the beeping sound irritating. The prevent the sound, Jenny learns to shut the fridge door before making her sandwich.

Explain the operant conditioning component illustrated in the scenario above.

Using an example, explain positive reinforcement.

Using an example, explain negative reinforcement.

Describe the difference between positive reinforcement and negative reinforcement.

Punishment aims to weaken behaviour

There are two types of punishment
Punishment is defined as the opposite of reinforcement, since it is designed to weaken, stop or eliminate a response rather than increase it. It is an aversive or unpleasant event that decreases the behaviour that it follows.

Most people think of punishment as something that parents do to children when they are naughty, what the courts do to criminals when they break the law, or what teachers do to students when they misbehave at school.

Figure 5.2.10: Removing the privilege of access to a mobile phone is one form of punishment.

Figure 5.2.11: Removing a person's freedom by sending them to gaol is a form of punishment.

Figure 5.2.12: Being told off by a teacher is also a form of punishment.

These are all good examples of punishment, however the term punishment, or punisher, is any event that causes a behaviour to weaken or stop. The consequence does not need to be intended to be a punisher, but it may have that effect. For example, consider a shy student who is asked to present in front of the class. When the class applauds and gives them lots of attention, the student may see this as threatening (punishing) rather than rewarding as the teacher intended it to be. The outcome is that the student is less likely to present in front of the class again – the opposite of what the teacher planned.

AVERSIVE PUNISHMENT (sometimes called Positive Punishment)

In psychology, **aversive punishment** occurs when an *aversive or unpleasant stimuli* is given, or applied after an undesired behaviour takes place /occurs, with the aim of making the behaviour *less likely to occur in the future.*

Skinner demonstrated aversive punishment by turning on a mild electric shock on the floor of the skinner box when the rat pressed the lever. The aversive stimulus of receiving the shock, shock decreased the likelihood that the rat would press the lever again.

Some examples of aversive punishment include:

- A child touches a hot stove (behaviour) and feels pain (aversive stimulus), the child is less likely to touch the hot stove again in the future.
- A person eats some week-old leftovers (behaviour) and gets a terrible taste in their mouth (aversive stimulus), the person is less likely to eat week-old leftovers again in the future.
- A teenager drives carelessly into the driveway in their new car (behaviour) and scapes the curb resulting in a scratch on the wheel hubs (aversive stimulus), the teenager is less likely to drive carelessly again, to avoid future scrapes to their car.

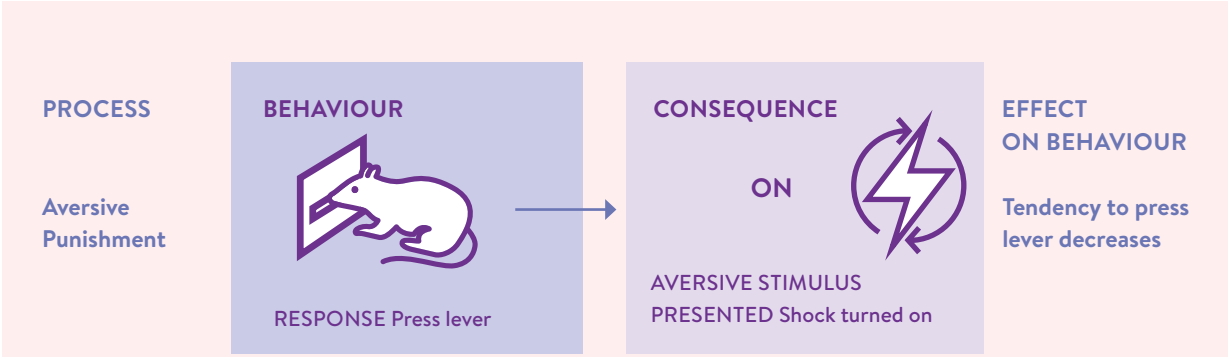


Figure 5.2.13: Skinner provided aversive punishment by turning on the electric shock when the rat demonstrated the incorrect behaviour.

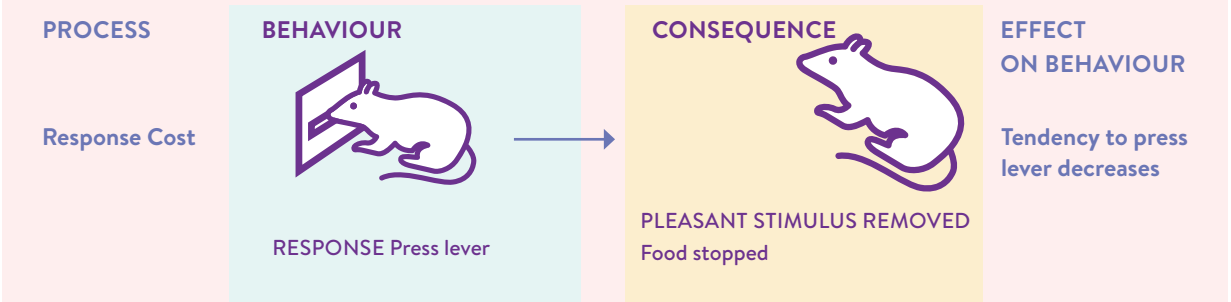


Figure 5.2.14: Skinner provided response cost punishment by removing the access to food when the rat demonstrated the incorrect behaviour.

RESPONSE COST (sometimes called Negative Punishment)

This form of punishment occurs when a *desirable, or pleasant stimulus* is removed after an undesired behaviour is shown, with the aim of making the behaviour *less likely to occur in the future*.

Skinner demonstrated **response cost**, which occurred when certain responses (pressing the lever) resulted in the loss (or cost) of a something pleasant (in the rat's case their food).

Some examples of response cost include:

- A toddler snatches a toy away from another child (behaviour) and is removed from the toy room for 5 minutes (*pleasant stimulus removed*), the child is less likely to snatch the toy again.
- A teenager comes home late after curfew (behaviour) and loses the privilege of borrowing their parent's car for a week (*pleasant stimulus removed*), the teenager is less likely to come home late again.
- A driver is caught speeding on the road (behaviour) and is fined (loses the *pleasant stimulus of money*).

Distinguishing punishment from negative reinforcement

It is not always easy to distinguish between punishment and negative reinforcement. Remember that reinforcement, even when it is negative, always *increases* a behaviour. In contrast, **punishment** always *decreases* a behaviour.

CHECKING FOR UNDERSTANDING

Identify which elements of operant conditioning (Aversive punishment or Response Cost) are present in the following scenarios:

	Aversive Punishment Response Cost
A teacher uses a token system for rewarding students. An misbehaves in class, and immediately loses a token.	
Thomas is about to run across the road without looking, his mum yells out to him in a loud, voice to tell him off.	
Getting blisters on your heels from wearing new running shoes with no socks.	
P-Plate drivers in South Australia have 4 "points" on their licence. A speeding fine results in the loss of 3 demerit points.	
A child misbehaves at home and is banned from using the PlayStation for the weekend.	
Caleb was grounded and not able to go to his friend's house on Saturday night for lying to his friends.	
Getting a late fee on your water bill, as it was not paid by the due date.	
Hue puts a cake in the oven to cook and gets distracted by her mobile phone. The cake burns.	
Nicole doesn't submit her assignment by the due date, so is required to spend break times in a catch-up class, losing time with her friends.	
Bian goes out for a walk without her umbrella and gets saturated when it rains.	

When trying to determine whether a scenario is negative reinforcement or punishment, consider what is the resulting effect on the behaviour. Let's make the point again - negative reinforcement will aim to **increase** a behaviour by *removing and unpleasant stimulus*, whereas punishment aims to **decrease behaviour**.

Both negative reinforcement and aversive punishment involve an *unpleasant stimulus*. One aims to increase behaviour - learning to use Aloe Vera gel to remove the unpleasant stimulus of sunburn and the other aims to decrease behaviour. By receiving an unpleasant stimulus such as getting sunburnt, you are likely to avoid getting sunburnt again in the future.

Punishment in the form of Response Cost: Bruno is caught speeding and is given a $300 fine. He pays the fine (the pleasant stimulus of his money is removed). The outcome of this scenario is that Bruno does not speed anymore – his behaviour of speeding is weakened, or even stops completely.

Reinforcement in the form on Negative Reinforcement: Knowing that speeding can cause accidents, or result in fines, Bruno always drives at the speed limit, even when he is in a hurry. By removing or avoiding the unpleasant stimulus (the fine) Bruno increases the likelihood of driving safely in the future.

Figure 5.2.15: Bruno receives a fine (punishment) and now doesn't speed anymore (negative reinforcement - he avoids future fines). The fine itself acts as both a punishment, and a negative reinforcer.

HELPFUL ONLINE RESOURCES

Watch this clip from **The Big Bang Theory** to see Sheldon Cooper explain the commonly confused terms of negative reinforcement and punishment: **https://tinyurl.com/uer6ssrw**

Summary of the four elements of Operant Conditioning

CHECK YOUR SCIENCE UNDERSTANDING

Identify which elements of operant conditioning (Aversive punishment or Response Cost) are present in the following scenarios:

	Pleasant Stimulus	Unpleasant Stimulus
Present or Add the stimulus	POSITIVE REINFORCEMENT Behaviour more likely to occur again ↑	AVERSIVE PUNISHMENT Behaviour less likely to occur again ↓
Remove or Avoid the stimulus	RESPONSE COST Behaviour less likely to occur again ↓	NEGATIVE REINFORCEMENT Behaviour more likely to occur again ↑

HELPFUL ONLINE RESOURCES

Learn more about the work of BF Skinner, a proponent of the behaviourist approach

https://tinyurl.com/ydrv9ptt

https://tinyurl.com/5bxk3u7w

CHECKING FOR UNDERSTANDING

Complete the table below by identifying the everyday examples of Operant Conditioning that you understand the best and are likely to remember.

	Pleasant Stimulus	Unpleasant Stimulus
Present / add the stimulus	POSITIVE REINFORCEMENT Presenting a **pleasant** stimulus, to **increase** the likelihood of the behaviour occurring again	AVERSIVE PUNISHMENT Presenting an **unpleasant** stimulus to **decrease** the likelihood of the behaviour occurring again ....
Remove or Avoid the stimulus	RESPONSE COST Removing a **pleasant** stimulus to **decrease** the likelihood of the behaviour occurring again	NEGATIVE REINFORCEMENT Removing an **unpleasant** stimulus to **increase** the likelihood of the behaviour occurring again ....

SCIENCE AS A HUMAN ENDEAVOUR - REAL WORLD APPLICATION

Influence and Impact - Addiction

A. Tom Horvath, Ph.D., ABPP, Kaushik Misra, Ph.D., Amy K. Epner, Ph.D., and Galen Morgan Cooper, Ph.D. , edited by C. E. Zupanick, Psy.D.

A substance or activity can only become addictive if it is rewarding; i.e., if it is pleasurable or enjoyable (at least initially). Individuals who dislike particular substances or activities have little risk for developing an addiction to those substances or activities. Such dislikes are not uncommon. Some people do not enjoy certain substances or activities. This protects them from developing an addiction simply because those substances or activities are not enjoyable. They are not rewarding.

Addiction is a learned behaviour because the initial pleasure or enjoyment was rewarding. According to the principles of operant conditioning, rewarded behaviours will increase. Of particular concern is that most addictive substances and activities are immediately rewarding. Research has taught us that when we immediately reward a behaviour people (and animals) learn it more quickly. This also explains why the addictive substance or activity tends to replace other, more healthy sources of reward. These other types of rewards are frequently delayed (such as the return of good health). An unfortunate cycle also develops. As addiction progresses, the availability of natural, healthy pleasures (rewards) decline due to the addiction. Friendships are strained. Loved ones become bitter. Meaningful jobs or hobbies are lost or abandoned. When this happens, addicted people become more and more dependent on their addiction as their sole source of reward. This creates an unfortunate but powerful addictive cycle.

Punishment also plays an important role in the development of addiction. If there is an early and significant punishment (perhaps a DUI, or a medical problem) then the addiction might not develop. In many cases, punishments for addiction occur much later, when the addiction is already firmly in place. At this point, many chemical and physiological changes have already occurred in the brain. This makes it more difficult to discontinue the addiction. Simultaneously, unhealthy cognitive and emotional patterns have become well-established. This too makes it more difficult to change addictive behaviour. Therefore, in these later stages of addiction punishment alone is usually insufficient to create a lasting change. The most successful approach is to increase rewards for healthy behavioural choices while eliminating rewards for addictive behaviour.

Operant conditioning has resulted in several effective treatments. The basic idea is to reward addicted people for making healthier, recovery-oriented choices. However, research has made it very clear: The rewards must have some value, and the reward must be substantial. Again, this has a common sense ring to it. It's unlikely an addicted person would give up their addiction for a piece of chocolate. However, they might give it up for a car.

Discuss how immediate versus delayed consequences play a role in maintaining a drug or smoking habit.

SCIENCE AS A HUMAN ENDEAVOUR - REAL WORLD APPLICATION

Development and Application

"Operant conditioning theory states that if a stimulus, such as exercise, elicits a positive response, such as enjoyment or contentment, then people will seek to reproduce those feelings by engaging in the behaviour again,".

This is basic psychology. You can reward good behaviour to encourage more of it, or punish bad behaviour to discourage it. While experts and individuals may disagree on which option works best, most people prefer positive reinforcement to punishment.
So how does this apply to exercise? Well, you can choose activities that you enjoy, as Fell suggests.

Rewards are another way to positively reinforce the behaviour of working out. When you're having fun and enjoying whatever workout you're doing, you're more likely to want to do that workout again. This is definitely true for me. I don't do any exercise that I don't enjoy, and that has to play a role in keeping me coming back for more. At the same time, when I skip a workout, I feel bad, guilty, and lazy—totally down in the dumps. That means I'm less likely to choose that as a "solution" to not feeling like working out in the future. Instead, even if I'm not feeling up to it, I remind myself that NOT doing it will make me feel worse. As I always tell people: You'll never regret exercising, but you will regret choosing to skip it.

Discuss how immediate versus delayed consequences play a role in maintaining keeping to an exercise routine.

CHECKING FOR UNDERSTANDING

Using one example, explain how punishment decreases the frequency of a response.

Refer to the following table, which provides information about the type of stimuli that are presented /added or removed during the process of reinforcement and punishment.

	Pleasant Stimulus	Unpleasant (aversive) stimulus
Present/ Add	Positive Reinforcement	Aversive Punishment
Remove	Response Cost	Negative Reinforcement

Juliet receives a poor grade on her Psychology assignment because she left it to the last minute and handed it in without getting it drafted.
Using a term from the table above, name and explain this process.

Claudia has learned to set an automatic transfer to pay her insurance bill on time after receiving a reminder notification 3 months is a row that she has missed the payment due to not having enough money in her account.
Using a term from the table above, name and explain this process.

So, should we use reinforcement or punishment to change behaviour?

ADVANTAGES OF REINFORCEMENT

Since reinforcement focuses on increasing a desired behaviour and punishment focuses on reducing an unwanted behaviour but does not teach a replacement, it is typically recommended to use positive reinforcement when trying to make a behaviour change.

Reinforcement when used well:

- Teaches correct behaviour
- Makes a child, animal or adult feel loved or appreciated
- Helps develop self esteem
- Increases motivation to do the correct behaviour again in the future.

Punishment, especially when it is immediate, is one way to decrease undesirable behaviour. For example, imagine four-year-old Blake hits his younger brother. Sending Blake to his room for 10 minutes means that there is a chance he won't repeat this behaviour again. While strategies like this are common, in the past children were often dealt physical punishments such as smacking.

It is important to be aware of some of the limitations of using punishment on children or animals:

- Feelings of resentment, frustration, aggression, helplessness may develop in a person who is punished frequently.
- The punished behaviour is not forgotten, it's suppressed and may return when the punishment, or threat of punishment is no longer present (for example when another parent is present).
- Adults who model aggressive punishments can incidentally cause increased aggression, as this teaches the child to show that aggression is a way to cope with problems.
- Punishment can create fear of people in authority, that is then generalised to other situations, such as fear of teachers, fear of police, fear of doctors.
- Punishment can also have unintended side effects that are reinforcing for the punisher. If the person administering the punishment feels better, and uses punishment as an outlet for frustration, this is likely to increase the likelihood of using the punishment again in the future, rather than because the person deserved it.

SCIENCE AS A HUMAN ENDEAVOUR - REAL WORLD APPLICATION

Development and Application: Positive reinforcement in the workplace

Positive reinforcement in the workplace affects how employees behave. If team members excel in their roles and meet all their goals, positive reinforcement makes them feel appreciated for all their work.

However, if token rewards are used continuously even when performance is average, praise is insincere, or a reward is not valued employees may begin to expect rewards regardless of how well they perform at work.

Understanding the effects of reinforcement theory and how it affects performance in the workplace is essential.

To read more about the use of operant conditioning in the workplace click here: https://tinyurl.com/y4dhatjh

HELPFUL ONLINE RESOURCES

Operant conditioning in everyday experiences and events such as customer loyalty programs.
https://tinyurl.com/2mnr3k8u

Figure 5.2.16: Positive reinforcement - giving a dog a treat for correct behaviour.

Figure 5.2.17: Positive reinforcement - a child receives a high 5 for correct behaviour.

Figure 5.2.18: A student is positively reinforced for speaking to the class, by receiving a clap from the class.

Figure 5.2.19: When a child is told off, this is received as a punishment, and can have a negative emotional reaction, even if the parent believes they are being helpful.

The greatest limitation of punishment is that it does not necessarily guide or teach the desired behaviours - reinforcement tells you what to do, punishment only tells you what not to do.

Consider the use of detention in schools. A student is rude to Mr. Brown, who issues a detention for this behaviour. The student attends the detention room, sits quietly, spends his time and returns to

Mr. Brown's room. In addition to the above limitations of this consequence, the student has not had an opportunity to learn how to speak politely, they only know that speaking rudely is not OK.

Extend this scenario to prison, as a consequence for breaking the law. If there is no rehabilitation or education programs during a prison sentence, then the time spent in jail is a punishment, but does not teach the offender the correct way to behave in the future. Often what is learned, is smarter, better ways not to get caught again.

If punishment is to be used, it is effective when it is:

1. Brief
2. Immediate and linked to the undesired behaviour in the mind of the person or animal
3. A positive behaviour can be taught to replace the negative behaviour, and this is reinforced.

If a child doesn't know how to read, we teach
If a child doesn't know how to swim, we teach
If a child doesn't know how to multiply, we teach
If a child doesn't know how to drive, we teach
If a child doesn't know how to behave, we...
teach? ...punish?
Why can't we finish the last sentence as automatically as we do the others?

—Tom Herner NASDE President

SCHOOL ASSESSED TASK IDEAS (SAT) RESEARCH TASK:

Are prisons a useful social investment?

Search for articles about the effectiveness of the prison system in Australia.

- Social impact investment and recidivism? Are programs aimed at reducing offenders from re-offending successful in helping parolees from returning to prison?
- What is the purpose of prison as a legal sanction for breaking the law?
- Explain the psychological principle of punishment and the laws purpose for using imprisonment as a sanction.
- Explain why, in attempts to change behaviour, prison may not be an effective consequence.
- What alternative consequences might be considered?

Importance of contiguity and contingency in operant conditioning

CONTIGUITY

You will recall from the Classical Conditioning topic that timing is crucial during the conditioning phase of learning. Skinner found the time lapse (also referred to as **contiguity**) between the presentation of the UCS and NS ideally needed to be within 0.5 seconds, otherwise conditioning (learning) will not occur.

Similarly, in Operant Conditioning – contiguity is also important. Contiguity refers to how humans and animals associate (or link) ideas, memories, and experiences when they are presented closely together in time. For example, if you consistently see a person's face, and they always smile at you – you will associate (learn) that this is a friendly person.

In operant conditioning, the association between the operant behaviour (see a person's face) and the reinforcer/punisher (person smiles at you) is affected by **contiguity** (the length of time between the behaviour and the consequence. Unlike classical conditioning where Pavlov concluded through experimental research that the association needed to occur within 0.5 seconds (essentially simultaneously) in Operant conditioning, the timing can be further apart, however as a general rule of thumb, the consequence needs to be provided ***as close as possible*** to the behaviour for the association to occur.

Consider the following examples:

Behaviour	Consequence	Association	Contiguity
Dog sits on command	Given a treat	Dog learns that they get a treat when they sit on command. They are more likely to sit again in the future.	Consequence needs to be given immediately after the correct behaviour.
Teenager is home late after curfew	Loses the privilege of borrowing the family car	Teenager learns that they are punished when they are home late. They are less likely to come home late in the future.	Consequence is given as soon as possible after the incorrect behaviour for the association to occur.
Student has their school assignment drafted, and submits their polished work on time.	Provided with "A" grade	The student learns to associate the benefits of drafting and on time submission with good grades.	The consequence is provided soon after the correct behaviour, but does not need to be immediate.

CHECKING FOR UNDERSTANDING

Discuss the effectiveness of the following reinforcers and punishers, if the consequence is delayed.

Behaviour	Consequence	Association	Contiguity
Child behaviours inappropriately at the supermarket	The child is told off 30 minutes later when they get home		
Your dog tears apart a cushion left outside during the day while you are at work	The dog is smacked when you get home from work 6 hours later		
A student is rude to a teacher in class	The student is given a detention 3 days later the next time the teacher sees them		
You start a new diet, eat healthily and increase your daily exercise	It takes 3 weeks to see a 1kg weight loss on the scales		

Figure 5.2.20: What type of operant conditioning is shown in this picture?

Figure 5.2.21: What type of operant conditioning is shown in this picture?

Figure 5.2.22: What type of operant conditioning is shown in this picture?

Figure 5.2.23: What type of operant conditioning is shown in this picture?

CONTINGENCY

According to the American Psychological Association, contingency refers to the relationship between a response and a reinforcer, or a response and punisher. Another word for contingent is dependent.

To be effective, consequences should be:

Consistent - It is important that the reinforcer or punisher is consistent for the association to be made. If sometimes when you are home late, there are no consequences but other times there are consequences, it will take longer to learn what the expectations are for coming home on time.

Appropriate - It is also important for the reinforcer or punisher to be appropriate. The same consequence does not work for all people. For example, taking away a Play Station from one high school student may have the desired effect, and the student learns that playing their Play Station is contingent upon doing his homework for one hour after school. Taking away a Play Station from a different student may have no impact, if playing Play Station is not important to them. A more appropriate consequence may be losing their mobile phone for the evening, therefore keeping their mobile phone is contingent upon completing their homework.

Reinforcement contingencies can occur through:

- Creating dependencies between a particular type of response and a reinforcer (such as when a rat presses a lever and this is followed by presentation of food). From the rat's point of view, the food is **contingent** (dependent) on pressing the lever.
- Natural consequences of a response such as learning that when a door opens when it is pushed. From a person's point of view, the opening of the door is **contingent** upon pushing the door first.
- Accidental circumstances, such as wearing a particular pair of jocks when you ace a test at school, while there is no cause and effect relationships, this superstition or belief in the lucky jocks is created. In future you believe that the positive consequence (acing a test) is **contingent** upon wearing your lucky jocks.

Shaping – a real life application of operant conditioning

Have you ever wondered how sealions, dolphins and elephants are trained to perform in lengthy shows, how animals are taught new tricks, or how children are taught to swim? **Shaping** is a very common and successful way of learning increasingly complex behaviours using positive reinforcement.

Parents use positive reinforcement to reward small steps that slowly build towards a larger goal. When teaching children to ride a bike, they first learn on a 3-wheeler, as they develop balance, with the parent holding on, then the parent lets go, following by a two-wheeler with training wheels, until the training wheels are eventually removed, the parent eventually lets go and the child has learned to ride the bike. Each of these steps is met with lots of praise, encouragement, smiles and potentially small tangible rewards to encourage the child to repeat the behaviour.

Figure 5.2.24: Shaping is used to train animals to learn complex sequences of tasks by rewarding small successions of correct behaviours.

Figure 5.2.25 Children learn to ride a bike through positive reinforcement of increasingly difficult steps.

You might have used shaping yourself as you teach yourself a new piece of music, how to master your tennis serve, learn to surf or swim. Each of these tasks requires you to start with a basic skill and build towards a more complex series of skills.

Not all associations are equal

Biological **preparedness** was discussed in relation to the development of taste aversions and phobias in the Classical Conditioning topic. In operant conditioning, biological preparedness can be observed when training animals. Animals can most easily learn and retain behaviours that draw on their biological predispositions, or behaviours that come naturally to them.

Figure 5.2.26: Horses find it easier than other animals to move around obstacles with speed and agility.

Figure 5.2.27: Bordie Collie dogs are more inclined to learn how to work with sheep than other breeds of dog.

Figure 5.2.28: Labradors have many characteristics that make them great Service Dogs. They are an intelligent breed who can be taught to obey several commands as well as perform all sorts of tasks. They are friendly, eager to please, and want to serve their owner. Labs are very loyal and like to stick close to their masters, which is important if they are serving someone with a disability. They are protective but not aggressive.

SCIENCE AS A HUMAN ENDEAVOUR - REAL WORLD APPLICATION

Using shaping to learn new skills

Shaping happens in a step-by-step fashion, where close approximations are initially reinforced. Refer to the video titled "Meet Beeline" and observe how this dog learns a new trick.

This process is also known as the method of "successive approximations" as the behaviours displayed are get successively difficult, and rewards are given for approximate steps towards the desired behaviour.

1. Identify the target or desired behaviour
2. Identify the steps that lead from the current behaviour to the desired behaviour
3. Reinforce the first step, or any behaviour that is an approximation of the first step
4. Do not reinforce again until the 2nd step is performed and so on.

You will see that Beeline is rewarded for putting two feet, then three feet, then all feet in the box. Once the first part of the behaviour is mastered, a reinforcer (generally a treat) is only given when the next steps are performed so that the target behaviour is increasingly harder.

Working animals such as horses, guide dogs, police squad dogs, circus animals, and even your family pet, have all **learned** new skills through shaping.

People also learn through shaping
Parents, sports coaches and teachers all use shaping regularly to teach children.

An interesting question to ask your parents would be "What steps did you have to take to toilet train me?" or "How did you teach me to ride a bike?"

HELPFUL ONLINE RESOURCES

Watch these clips to see real world applications of using positive reinforcement to teach animals new tricks

Meet Monty. The World's First Driving Dog:
https://tinyurl.com/yektavrn

Meet Otto: Guinness World Champion Skating Dog:
https://tinyurl.com/4eupac63

Meet Tillman: The Skateboarding, and Surfing Bulldog:
https://tinyurl.com/sxkmcevw

Meet Beeline: How to teach a dog circus tricks using shaping:
https://tinyurl.com/2kpytkp4

REVISITING KEY CONCEPTS

Describe the differences between positive reinforcement and negative reinforcement.
Similarities: both types of reinforcement aim to increase the likelihood that the behaviour will occur again – in this scenario – the behaviour of driving safely is increased.
Differences: Positive reinforcement involves providing or receiving a pleasant stimulus (reward). Negative reinforcement involves removing or avoiding an unpleasant stimulus.
Describe the differences between aversive punishment and response cost in operant conditioning
Similarities: both types of punishment aim to decrease the likelihood that the behaviour will occur again.
Differences: the difference is with regard to whether the stimulus is pleasant, or unpleasant and whether the stimulus is added or removed. Aversive punishment involves providing or receiving an unpleasant stimulus (e.g., a smack). Response Cost involves **removing a pleasant stimulus** (e.g., being grounded – removing freedom).

Explain why, in attempts to change behaviour, reinforcement is favoured over punishment
While aversive punishment can be effective in some cases, Skinner suggested that the use of punishment should be weighed against the possible negative side effects. Today's psychologists and parenting experts favour reinforcement over punishment—they recommend that you catch your child doing something good and reward her for it. This teaches long term skills for correct behaviour.
Explain the importance of contiguity and contingency in operant conditioning
Contiguity and contingency both relate to the timing between the behaviour and the consequence in operant conditioning. They are important otherwise an association between the behaviour and consequence is less likely to occur – learning is less likely to occur.
Contiguity is important as the timing for a **reinforcer needs to be as soon as possible** after the desired behaviour has been performed for the behaviour to be learned and continue again in the future.
Contiguity is important as the timing of a **punishment should be as soon as possible** after the undesirable behaviour has been shown for the behaviour to be learned, and less likely to occur again in the future.
Contingency is important, as it describes the relationship between the consequence and the behaviour. For the association to be made, the consequence should be appropriate, consistent or a natural consequence.

Not all associations are equal. Discuss the role of biological preparedness in the training of animals.
Animals can most easily learn and retain behaviours that draw on their biological predispositions, or behaviours that come naturally to them.

Schedules of reinforcement

The operant conditioning overview chart below shows the concepts we have covered so far with the green ticks. We are now going to continue to learn more about different types of positive reinforcement.

The process for shaping behaviours, either in humans or animals utilises the following psychological concepts associated with Operant Conditioning.

- Reinforcement
- Positive Reinforcement
- Continuous Reinforcement followed by Partial Reinforcement.

Let take a closer look at the concepts of continuous and partial reinforcement:

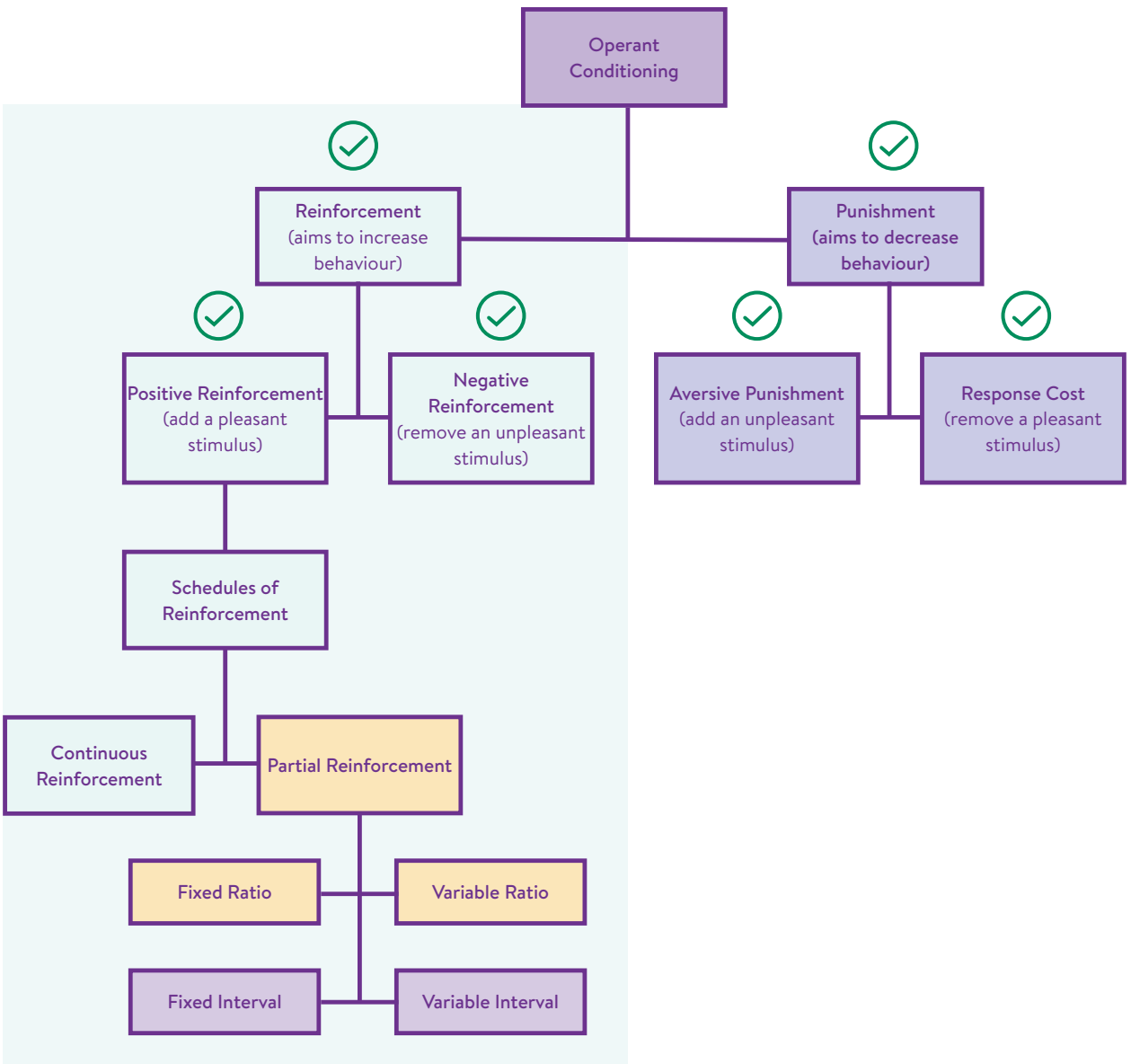


Figure 5.2.29: Checkpoint - an overview of the topics in operant conditioning so far. The following topics relate to Positive Reinforcement.

HELPFUL ONLINE RESOURCES

Watch this video to listen to BF Skinner explain the origins of shaping, and how this led to developing his understanding of the Schedules of Reinforcement: https://tinyurl.com/y5r5btuy

CONTINUOUS REINFORCEMENT

Continuous reinforcement occurs when a reinforcer is given after each and every demonstration, or performance of the desired behaviour. Learning happens quickly when continuous reinforcement is used, so if you are training your new puppy to sit, you will need to give her a treat every time she sits. The drawback of using **continuous reinforcement** is that if the reinforcement is stopped, you ask your puppy to sit, but do not give her a treat, then the behaviour will quickly slow down and eventually stop.

In the real world outside of Skinner's experimentation with rats pressing levers, and pigeons pecking at disks under controlled laboratory conditions, behaviour is not continuously reinforced. Once a new behaviour has been learned, there is no need to continue reinforcing the behaviour, for example you are probably not still rewarded for using the bathroom like you were when you were being toilet trained!

PARTIAL REINFORCEMENT

Partial reinforcement occurs when only some of the desired behaviours are reinforced. Skinner experimented with four different experimental conditions and manipulated both the timing and frequency of when he rewarded his animals for their correct behaviours.

Interval Schedules – are reinforced based on time intervals that a behaviour is performed – seconds, minutes, hours, days, weeks, fortnights, years. These can be fixed intervals, or variable intervals.

Ratio Schedules – are reinforced based on the frequency (or number of times) of the behaviour being performed. A ratio is dependent on the person or animal demonstrating the desired behaviour, and can be reinforced on a fixed ratio, or variable ratio.

Fixed Schedules are predictable.

Variable Schedules are unpredictable.

The following table provides some examples commonly used to describe fixed and variable schedules of reinforcement, and ratio and interval schedules of reinforcement

Reinforcement Schedule	Description	Examples
Fixed interval	Reinforcement is delivered at predictable time intervals (e.g., after 5, 10, 15, and 20 minutes).	• Being paid every fortnight • Supervisor walks past your desk every hour
Variable interval	Reinforcement is delivered at unpredictable time intervals (e.g., after 5, 7, 10, and 20 minutes).	• Checking social media for notifications • Fishing – don't know when the fish will bite, but the longer you leave the line in, the more likely you will get a bite.
Fixed Ratio	Reinforcement is delivered after a predictable number of responses (e.g., after 2, 4, 6, and 8 responses).	• Piecework—factory worker getting paid for every x number of items • Loyalty schemes
Variable ratio	Reinforcement is delivered after an unpredictable number of responses (e.g., after 1, 4, 5, and 9 responses).	• Gambling – Poker machines – similar to Skinner's rats – you press the button, and you will get a reward after an unpredictable number of presses. • Sales pitch– the more people you pitch to, the more likely you will get a sale.

HOW SCHEDULES OF REINFORCEMENT AFFECT LEARNING, EXTINCTION AND PERFORMANCE

B.F.Skinner spent much of his research career experimenting and observing which reinforcement schedules influenced the rates of learning. He discovered that each of the following four schedules of reinforcement influenced how quickly an animal was able to learn a behaviour, the impact on the continued performance of that behaviour and how quickly the behaviour became extinct once the reinforcement was ceased.

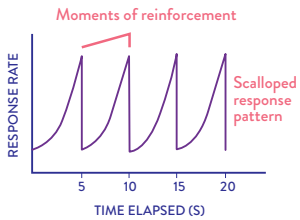
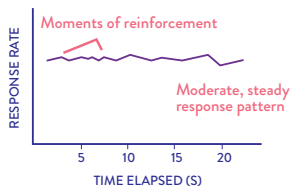
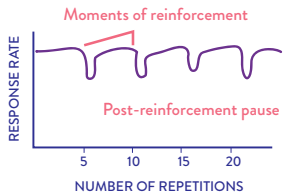
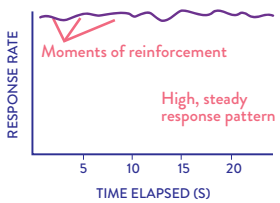
Reinforcement Schedule	Description	Learning	Performance	Extinction
Continuous reinforcement	Reward the behaviour continuously, each time the correct behaviour is performed.	Learning is fast, this schedule is best used when learning something new. Animals and people respond equally well.	Performance may become dependent on the reward being present. High rates of response, as each response is rewarded.	Extinction rate is FAST. More likely to become extinct once the reward stops.
Fixed interval		Once the interval is learned, performance will drop off until the next time interval approaches. Eg, students don't study, until the night before the next test.	Moderate response rate but there is no incentive to perform the behaviour between rewards. Behaviour increases as the next time interval approaches.	Resistance to extinction increases as the interval lengthens in time, however likely to become extinct quite quickly with no reinforcer.
Variable interval		Useful for teachers to keep students studying on a regular basis, as they may not know when they are going to be tested next.	Moderate yet steady response rate. Don't know when a reinforcer will come, but it's worth it to keep checking	More resistant to extinction than the fixed interval schedule, as long as the intervals are similar.
Fixed Ratio		Useful when learning something new, but you don't want to reinforce every correct behaviou	High response rate with pauses after reinforcement	Extinction is reached quickly when all reinforcement is taken away.
Variable ratio		Useful once a behave has already been learned, a variable ratio schedule is the best way to maintain behaviour	High and steady response rate.	Very addictive, and resistant to extinction.

Table 5.2.1: How schedules of reinforcement affect learning, performance and extinction.

HELPFUL ONLINE RESOURCES

Learn more about how schedules of reinforcement are used in training dogs: **https://tinyurl.com/3k3ww3yu**

How schedules of reinforcement used in training your dog: **https://tinyurl.com/83sdnsaz**

CHECKING FOR UNDERSTANDING

Using an example, describe one schedule of reinforcement

Identify the schedule of reinforcement in each of the following cases.

1. A café uses a loyalty card system which requires customers to get a stamp each time they buy a coffee. After 10 coffees, they receive a free drink of their choice.

2. A mother lets her baby cry for two minutes, then settles the baby. She lets the baby cry for another two minutes, then settles the baby. She continues this pattern until the baby falls asleep.

3. A dog trainer rewards the dog in an unpredictable manner after the dog demonstrates the correct behaviour.

4. The Scouts collect recyclable cans as a fundraiser. They receive 10cents for each can they collect.

5. John's teacher gives unannounced maths tests. John studies more regularly for maths than other subjects, as he doesn't know when the next test is going to be.

6.

a) Carol picks grapes during the wine vintage season. She gets paid by the bucket. For every two buckets of grapes, she receives $20.

b) Linh picks grapes during the wine vintage season. She gets paid by the hour.

c) Explain which schedule of reinforcement is likely to have a greater incentive to work harder picking grapes - Carol or Linh.

7. Explain using the principles of operant conditioning, including schedules of reinforcement, the techniques that are used by the gambling industry to encourage people to continue spending money.

8. Explain the operant conditioning concepts involved in the use of roadside speed cameras which aim to deter drivers from speeding on the road.

Using operant conditioning to explain the placebo effect

In medicine, a **placebo** is a treatment which could be medication, therapy, or other intervention that appears to have the benefits of the medical intervention. Because a placebo isn't an active treatment, it is often used as a baseline when testing new medications or treatments. Researchers can compare the results from the placebo, to those from the actual drug. This helps determine if the new medication is effective.

Imagine you have volunteered for a study that determines the effectiveness of a new headache drug. You take the tablet you have been given, believing that it will help your headache. You find that your headache feels much better after taking the tablet. Later, you are told that you did not actually receive the new medicine in the study at all but were given a placebo instead. A placebo is something given to a person that has no real physical effect.

If you were not given the medication, why did your headache feel better after you took the pill you were given? The answer to this question is that you experienced the placebo effect. The placebo effect is a phenomenon that occurs when a person believes he or she is receiving real treatment and reports an improvement in his or her condition.

Figure 5.2.30: A placebo is used in research to enable comparison when testing new medications or treatments.

WHAT CAUSES THE PLACEBO EFFECT?

One theory is that you had high expectations that the pill would work, and therefore it did. This is a mind-over-matter situation in which you believed so strongly in something that it happened. You had the belief that the pill you were given would help your headache. You have been taught to believe that medicine makes you feel better when you take it. Since you expected the pill to work, it did.

The previous experience of removing the headache by taking a pill is an example of negative reinforcement. This previous **negative reinforcement**, in turn acts as the placebo effect, if someone were to give you a pill that looked like a headache tablet, you would start to feel better as you had previously felt better when taking a headache tablet.

Another example of operant conditioning which can created the placebo effect include experiments using alcohol. If a participant is handed a drink that looks, smells and tastes alcoholic, there is an increased likelihood that they will feel the affects of intoxication - even if it contains no alcohol at all.

Figure 5.2.31: Placebos are often used in research into the effects of alcohol on behaviour.

HELPFUL ONLINE RESOURCES

Watch this episode of the Big Bang Theory to see Raj affected by the placebo effect on non-alcoholic beer

https://tinyurl.com/c6tdv4c

Behaviour Modification

Behaviour modification is a set of therapies / techniques based on operant conditioning theory. Behaviour modification is the process of changing (modifying) behaviours over the long-term using various motivational techniques, and reinforcement strategies (either positive or negative reinforcement). The aim is to replace inappropriate or problem behaviours with more positive, desirable ones.

Note: It is important to understand that Behaviour modification **does not use punishment** as a consequence.

You have probably experienced behaviour modification strategies at some point, as in theory it works with just about everyone. If you have ever been offered a series of small rewards, for example when you were potty training, or learning to ride a bike, or increasing the amount of homework you are doing – then you will recognise behaviour modification therapy.

This is not as simple as it sounds — always reinforcing desired behavior (without deferring to punishment), for example, is not easy, and can feel like bribery.

Because no two people are alike, behaviour modification programs are never 'one-size-fits-all' and need to be customised and negotiated with the person whose behaviour needs to change. In general, the steps to follow are:

Step 1 - Monitor the amount of time currently doing the activity to create a baseline for how problematic the behaviour currently is.
Step 2 - Negotiate a **realistic goal** to work towards with the person.
Step 3 – Discuss and agree upon a **reinforcement schedule** with a set of rules for when the person can be rewarded.
Step 4 - Start the behaviour modification program and **reward small improvements** in the desired behaviour.
Step 5 - Gradually remove the reward to determine whether the behaviour has improved.
An alternative or additional strategy is to change the environment or condition that is currently reinforcing the undesirable behaviour – e.g. distractors, games, friends.

You can use a behaviour modification program on yourself.

- Establish how much time you are spending studying now – e.g. ½ an hour per night
- Set a goal for how much you would like to study e.g. 2 hours per night and 4 hours on Sunday
- Make your study desk into a 'discrimination stimulus' by doing only homework at this desk

Shape the response of studying at the desk by rewarding successive steps (i.e. **reward yourself for sitting there for short periods of time).**
Use rewards that are meaningful – watch TV half hour, phone a friend, eat a piece of chocolate.
Make your successful study periods longer and longer before reinforcing.
Remove the rewards and monitor overall improvement – can you now study for 2 hours without getting distracted?

Remove other stimuli you find rewarding like Facebook, or TV. This will also help.

Figure 5.2.32: Try using behaviour modification to reward yourself for spending increasing amounts of time on your study.

SCIENCE AS A HUMAN ENDEAVOUR - REAL WORLD APPLICATION

Behaviour modification in the workplace

Behavior modification is the act of shaping how your employees behave in the workplace. Most managers practice behaviour modification by using positive reinforcement to reward those who excel. For example, you might provide a year-end bonus or raise to those who've gone above and beyond. Warnings and suspension of employment are examples of behavior modification through negative reinforcement. If successful, these modification techniques encourage or discourage behaviours in the workplace. Ethical issues come into play when you consider possible adverse effects of behaviour modification on other employees in the office and your own ability as a manager to use positive and negative reinforcement objectively.

Influence and Impact

Select a workplace issue and describe how the use of behaviour modification may have impact through beneficial or unexpected consequences requiring monitoring, assessment and evaluation of risk, through ethical consideration.

CHECKING FOR UNDERSTANDING - CLASSICAL AND OPERANT CONDITIONING REVISION

Jordan is a professional basketball player but is finding it difficult to find the motivation to attend all his training sessions.
Explain how behaviour modification could be used to increase Jordan's attendance at training sessions.

Aspen has a bad habit of swearing in class, he says he is unaware of how often he is swearing and is doing this out of habit.
Explain how Aspen's teacher could use a behaviour modification program to increase the amount of time Aspen speaks appropriately for in class each day.

CHECKING FOR UNDERSTANDING

Place a tick in the correct columns to indicate whether each statement is true or false.

Statement	True	False
In classical conditioning the UCS is presented before the NS.		
Before conditioning, the UCS will naturally produce a UCR.		
When an animal stops producing a behaviour when the UCS is no longer presented, this is called spontaneous recovery.		
Aversive punishment is the only way to decrease the likelihood that a behaviour will occur again in the future.		
The contiguity of the UCS and NS must be paired within a couple of seconds for conditioning to occur.		
Reinforcement must occur directly before a behaviour is demonstrated, otherwise learning will not occur.		
Aversive punishment and response cost will increase the likelihood of a behaviour occurring again in the future.		
Response cost involves a pleasant stimulus being removed.		
The CS originally started out as the NS, but became the CS once paired with a UCS.		
Reinforcement of correct responses is a more effective strategy for teaching correct behaviours than punishment.		
When an organism is able to distinguish between two different stimuli, this is called Stimulus Discrimination.		
When a behaviour ceases to be demonstrated, once the UCS is no longer presented, this is called Extinction		
A strategy known as rewarding "successive approximations" is known as shaping.		
Preparedness is a concept that relates to both classical and operant conditioning.		
Once example of the placebo affect occurs when a person believes (due to prior operant conditioning) that a tablet will reduce their headache.		
Behaviour modification is a psychological intervention based on operant conditioning theory.		
Systematic Desensitisation is a psychological intervention based on classical conditioning theory.		
Contiguity and contingency as essentially the same concept in psychological theory.		
The acquisition phase in classical conditioning occure before and during conditioning, and the performance phase occurs once the CS produces a CR.		
Interval schedules of reinforcement are based on the number of times the correct behaviour is performed.		
A Variable Ratio schedule of reinforcement is the most difficult to make extinct.		

SCIENCE INQUIRY SKILLS

1. Investigations in Psychology can be experimental, observational, or qualitative. In experimental investigations, the investigator examines behaviour by manipulating the independent variable. In observational investigations, the investigator collects data in a natural setting by means of behavioural observations or self-report methods.

Discuss the different experimental conditions that Skinner used for his research on Schedules of Reinforcement.

For each of the four schedules of reinforcement, identify the:

- Independent Variable
- Dependent Variable
- Constant Variables
- Extraneous Variables

Explain why Skinner's research is experimental rather than observational.

2. Watch an episode of Super Nanny:
https://www.youtube.com/c/Supernanny/videos
Design an observational research method to gather data about the effectiveness of different parenting styles? For example, consider:

- The parent who punishes to teach their child what is incorrect behaviour
- The parent who rewards intermittently, but the child is unclear when and why they will get a reward
- The parent who systematically follows an operant conditioning process to achieve a particular behaviour goal with their child.

Design investigations, including:

- a hypothesis or inquiry question
- types of variables
  - dependent
  - independent
  - constant
  - extraneous
- the method to be followed
- justification of the method
- the type and amount of data to be collected
- identification of ethical considerations and how these may be addressed
- identification of socio-cultural considerations and how these may be addressed.

5.3 OBSERVATIONAL LEARNING

- Explain how learning through observation is different from operant conditioning.
- Describe the factors that influence observational learning:
  - attention
  - retention
  - reproduction
  - motivation.
- Describe how the characteristics of the role model influence learning through observation.

Albert Bandura and others studied aggression in children (the Bobo doll studies) by observing their behaviour.
Explain the advantage of using behavioural counts in research.

- Describe the evidence for mirror cells in the brain being involved in observational learning.

2022 Subject Outline | Stage 2

Have you ever watched a demonstration video on YouTube to learn how to do something, or looked over the shoulder of a fellow student during a Science practical to see what you need to do?

Figure 5.3.1: Children often dress up and mimic the roles of their parents as part of learning through play.

Figure 5.3.2: Children learn through copying their parents behaviour and routines.

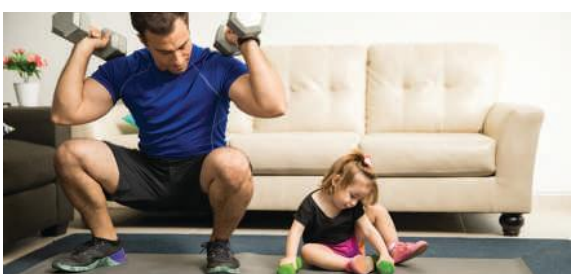


Figure 5.3.3: Attitudes are learned from an early age by observing the actions of our parents.

From the moment we are born, babies learn from the interaction they have with their caregiver. Observing and replicating behaviour is the most basic form of learning with infants as young as 21 days old imitating facial expressions.

FACTORS AFFECTING OBSERVATIONAL LEARNING

Observational learning is a type of learning that happens indirectly through a process of watching others and then imitating their behaviour, also known as modeling.
Observational or social learning is based primarily on the work of Albert Bandura (1977). He and his colleagues were able to demonstrate through a variety of experiments that the application of consequences was not necessary for learning to take place. Rather, learning could occur through the simple processes of observing someone else's behaviour (vicarious learning).
Bandura formulated his findings in a four-step process which considers a cognitive component to this form of learning.

1. **Attention** - the individual notices something in the environment.
2. **Retention** - the individual remembers what was noticed.
3. **Reproduction** - the individual produces an action that is a copy of what was noticed.
4. **Motivation** - the environment delivers a consequence that changes the probability the behavior will be produced again.

Bandura noted that *motivation* to *reproduce* a learned behaviour will depend on the outcome for the model. If a model is reinforced (rewarded) for their behaviour, you will be more likely to reproduce this behaviour yourself, for example, seeing your sibling receive money for completing their chores. This is known as vicarious reinforcement as you have learned through the consequence of another's actions. However, if the model is punished you are less likely reproduce the behaviour, for example, seeing your sibling punished for throwing food at the dining table. This is known as vicarious punishment.

HELPFUL ONLINE RESOURCES

Children see, children do:
https://tinyurl.com/34bmk5jb

Bandura's work draws from both behavioural and cognitive views of learning. He believes that mind, behaviour and the environment all play an important role in the learning process.

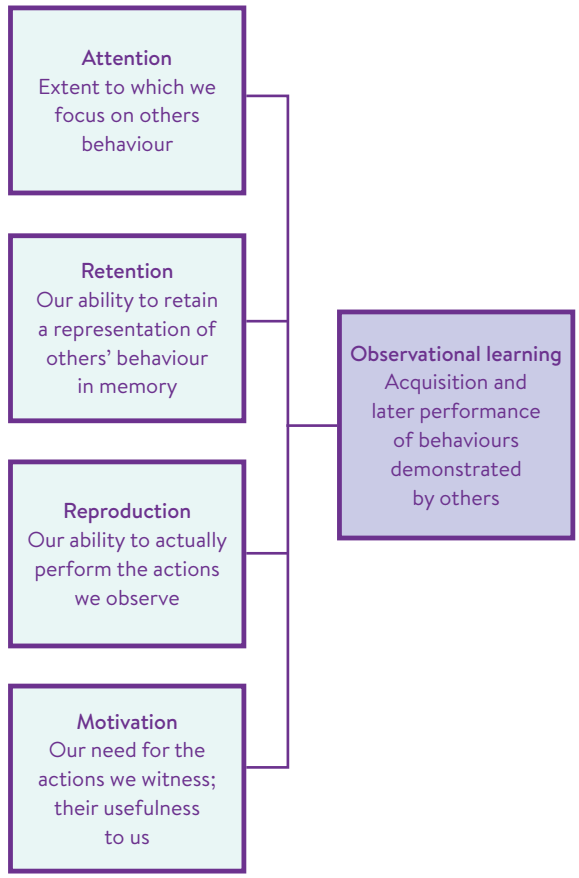


Figure 5.3.4: Bandura used a combination of experimental and observational research designs to determine differences between the way children learn from adult role models.

	Operant conditioning	**Observational learning**
Differences	Emphasises the importance of the organism's direct experience when leaning.	Suggests that learning can occur indirectly through observation.
	No distinction between learning and performance.	Distinguishes between learning and performance. Learning can occur but not be demonstrated unless there is motivation to perform the learnt behaviour (latent behaviour). Therefore distinguishes between the acquisition and performance of a behaviour learnt through observation.
	Does not include the role of cognition in the learning process.	Includes the role of cognition (thinking and memory) in the learning process. The learner must attend to the model's behaviour and its consequences and then store a mental representation of it.
Similarities	The learner is active in both learning processes.	
	It is reinforcement (rather than the learning itself) that influences the likelihood of the behaviour being imitated by the observer. This is known as vicarious conditioning; where an observer learns the consequences of a behaviour by observing these consequences occurring to someone other than themselves.	

Bandura's bobo doll

In 1961 Bandura set out to investigate if aggressive behaviours could be learned simply by observation. Bandura and his colleagues devised the infamous Bobo doll experiment which was conducted using children aged between 37 and 39 months old. The children were selected based on their attendance at the Stanford University day-care centre and were divided into three groups.

To enable the researchers to implement a matched pairs design, pre-testing occurred using a 5-point rating scale to allow researchers to observe aggressive behaviour prior to allocating them to experimental or control groups.

See diagram below: Variations to the initial experiment were implemented using both male and female models in each of the experimental conditions to consider if gender would also influence the children's modelling behaviour.

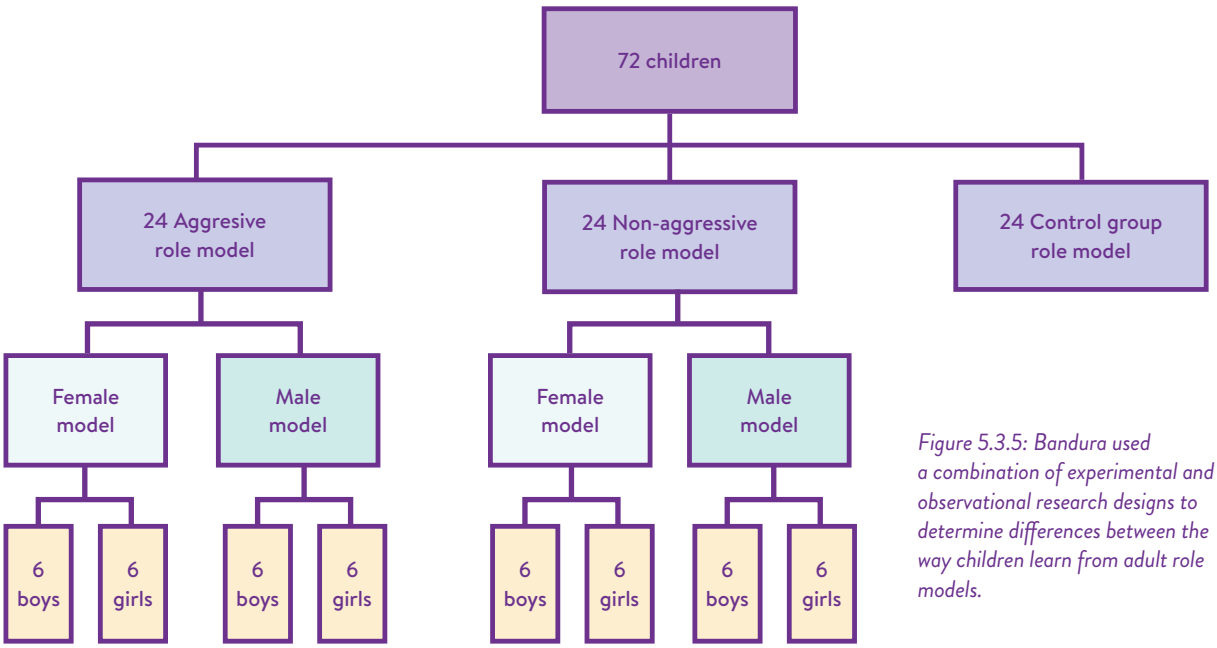


Figure 5.3.5: Bandura used a combination of experimental and observational research designs to determine differences between the way children learn from adult role models.

Behavioural counts

Behavioural counts were used to gather data on the behaviours observed by the researchers with inter-rater reliability being shown to be very high (r=0.89), (Bandura,1961). The use of behavioural counts allows objective quantitative data to be collected reducing observer error. New technologies and software are now available for personal computers and handheld devices to assist in the precision of data collection to further help eliminate observer error.

Characteristics of the role model

FINDINGS:

Children who observed an aggressive model were more likely to model this behaviour across both groups, however, modelling was higher when the sex of the model matched the sex of the child exposed to their behaviour. Boys showed more aggressive behaviour when exposed to the aggressive male model, compared to the aggressive female model.

The results were comparable across male and females, however, females were more likely to model physical aggression when exposed to the male model, compared to showing verbal aggression when exposed to the female model.

According to Bandura's research, there are a number of factors that increase the likelihood that a behavior will be imitated. We are more likely to imitate:

- People we perceive as warm and nurturing
- People who receive rewards for their behavior
- People who are in an authoritative position in our lives
- People who are similar to us in age, sex, and interests
- People who we admire or who are of a higher social status
- When we have been rewarded for imitating the behavior in the past
- When we lack confidence in our own knowledge or abilities
- When the situation is confusing, ambiguous, or unfamiliar.

Frequency of aggressive responses by control children and by children exposed aggressive and inhibited models

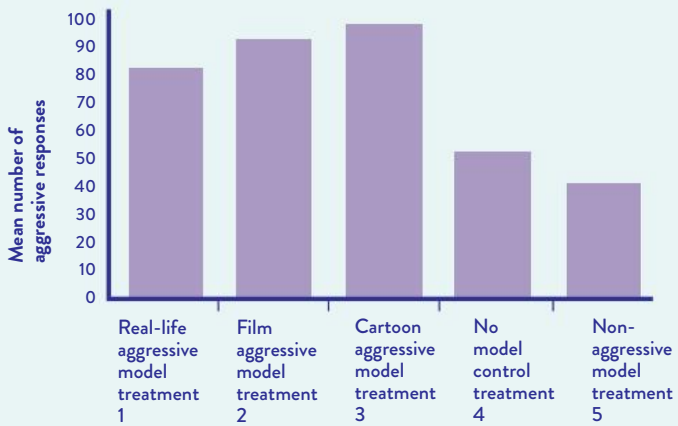


Figure 5.3.6: Results showing aggressive and non aggressive treatment groups

Effect of observed consequence on imitative behaviour

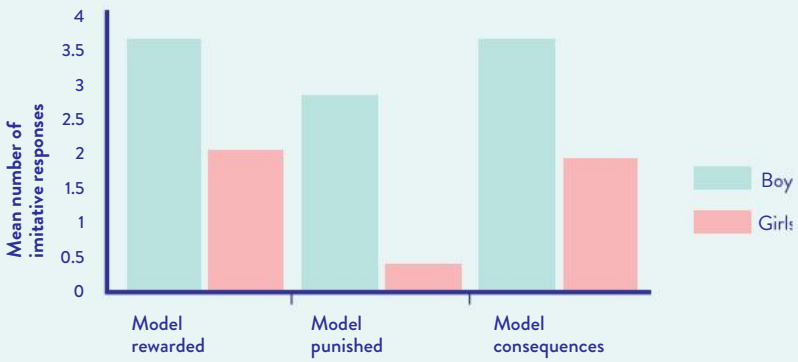


Figure 5.3.7: Results showing gender differences.

HELPFUL ONLINE RESOURCES

You can read the full research here: https://tinyurl.com/249tfcaf

https://tinyurl.com/37xyn6m7

SCIENCE AS A HUMAN ENDEAVOUR - REAL WORLD APPLICATION

Development and application

Developments in research, enterprise and technology lead to advancements in psychological understanding. The application of psychological understanding can enable scientists to develop solutions, progress discoveries, design action...

Observational learning describes the process that occurs when the learner sees the behaviour demonstrated by a role model as well as the consequence of the same behaviour. Parents and older family members often serve as role models, just as television, video games, and celebrities on social media do. There are clear disadvantages to this type of learning.

Contrasting research shows that social networking sites have positively affected modern society a great deal and have changed people's habits. Correct use of social networking sites support students with active and lifelong learning, creativity, problem solving, cooperation and multi-faceted interaction and critical thinking. Furthermore, it develops communication skills and aids in strengthening peer support.

Continue your research into the positive and negative impacts that social media may have on teenagers.

Describe three examples in which social media may influence teenagers negatively as a result of observational learning.

Explain what would be expected to happen if a young child watched a lot of violence on television according to observational learning theory.

Provide a counter argument, that observational learning through social media can have a positive influence on teenagers.

Take on the role of a current researcher of the impacts of social media. Provide three recommendations based on your research for how parents, teenagers and schools should manage observational learning through social media.

The 3 major types of behavioural learning

CLASSICAL CONDITIONING

A neutral stimulus is associated with a natural response

OPERANT CONDITIONING

A response is increased or decreased due to reinforcement or punishment

OBSERVATIONAL LEARNING

Learning occurs through observation and imitation of others

Figure 5.3.8: A summary of the three learning theories.

So far, we have learnt that Classical conditioning involves the process of associative learning through the pairing of stimuli. In comparison, the learning process in Operant conditioning involves behaviours being reinforced or punished to increase or extinguish specific behaviours. In observational learning, the learner's behaviour does not need to be reinforced for the behaviour to be acquired, nor is the behaviour necessarily reproduced at the time.

Reproduction of a learned behaviour may occur many years later when the appropriate environmental cues exist to elicit the learned behaviour, for example, a child who witnesses their pare≠nts deal with frustration and anger through aggressive behaviour may not replicate this behaviour until much later in life when they too are in a relationship.

CONTRASTING EACH OF THE LEARNING THEORIES

	Classical conditioning	Operant conditioning	Observational learning
Type of behaviour learned	Simple, reflexive behaviors	Complex behaviors	Behaviors useful in a social setting
Process of learning	Pairing stimuli (that produce a response)	Pairing a consequence with a response	Observing the actions of others

SCIENCE INQUIRY SKILLS

Critical analysis:

Banduras research has gained criticism regarding his methodology. Using your SIS complete the following table.

Criticism	Explanation
Sample bias	
External validity	
Reliability	
Extraneous/Confounding variables	
Ethics	

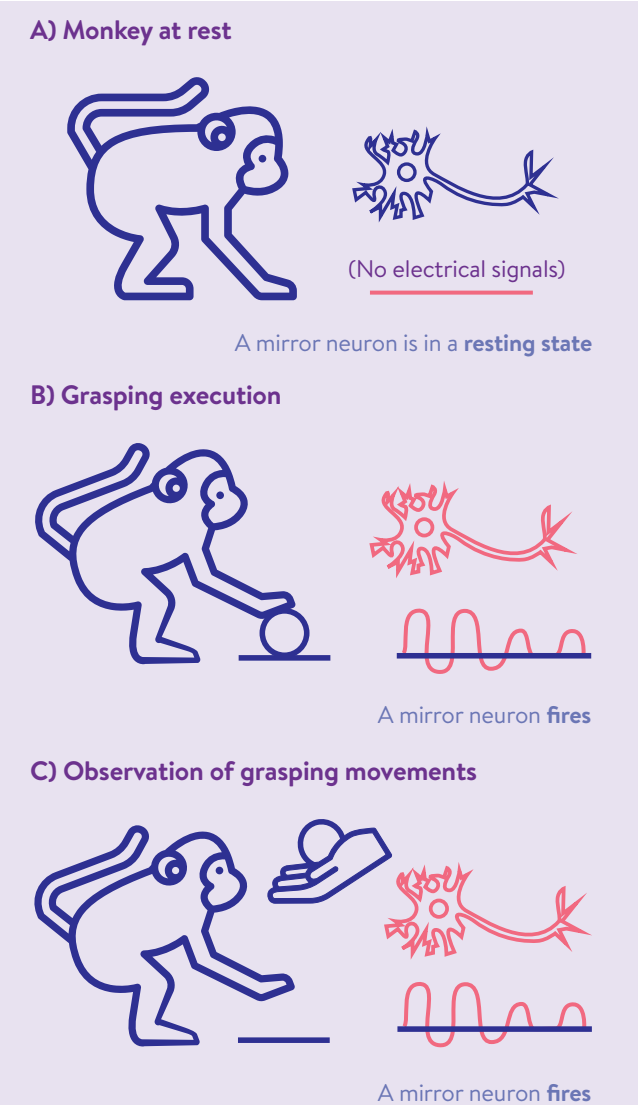


Figure 5.3.9: Showing sensory mirror neurons activation during observational learning.

Mirror Neurons

Research suggests that observation learning and the imitative behaviour which occurs subsequently are due to the existence of **mirror neurons**.

Mirror neurons were first discovered by an Italian neurophysiologist, Giacomo Rizzolatti, in the 1990s when he and his team conducted research with macaque monkeys to investigate the role of neurons involved in control motor movements. The team recorded neuron activity in the frontal and parietal areas of the brain during the execution and observation of a movement being completed. (see next picture).

The role of mirror neurons in learning has been supported by several researchers and gives new meaning to the saying, monkey see, monkey do! According to Mukamel et al., 2010; the overlapping sensory-motor representations have also been implicated in observational learning and imitation, alongside motor mirror neurons.

This growing field of interpersonal neurobiology and the study of mirror neurons has been continued by researchers in the field of Trauma (Siegel and Payne Bryson 2010, Siegel 2020). There is now an understanding that human emotions and physiological states are contagious – the feelings and body sensations that one person experiences can influence the people around them. When we see a person smile, neurons fire in our own brain that are related to similar movements, hence we unconsciously smile in return. This behaviour is even seen in infants who learn emotions from the people around them. If someone around us is distressed, our own brains respond to mirror the same emotional experience.

Consider the following scenarios:

A teacher walks into the classroom and is flustered from the lesson before and the whole class becomes agitated and escalated.

A parent comes home from work and gets angry with their child for leaving their shoes and socks on the floor, and the child retaliates with equal frustration and yells in return.

A group of people at an outdoor concert or sporting match yell and shout out of excitement, and the group next to them do the same.

Understanding the effect of mirror neurons can contribute to our understanding of the impact of observational learning.

SCIENCE INQUIRY SKILLS

What are the implications of conducting research in animals and applying the findings to humans?

What do you need to consider when using animals in research? (3 R's)

REVISITING KEY CONCEPTS

Explain how learning through observation is different from operant conditioning.
With operant conditioning, the person is involved directly with the learning process, and is being reinforced or punished personally, whereas with observational learning, the person can vicariously learn by watching or observing someone else be rewarded or punished for their actions.

Operant conditioning does not distinguish between learning and performance, whereas with observational learning it is possible to learn cognitively how to do something, but never actually perform that learning. This doesn't mean that learning has not occurred.

Describe how the characteristics of the role model influence learning through observation.
Children who observed an aggressive model where more likely to model this behaviour across both groups, however modelling was higher when the sex of the model matched the sex of the child exposed to their behaviour, boys showed more aggressive behaviour when exposed to the aggressive male model compared to the aggressive female model.

The results were comparable across male and females, however females where more likely to model physical aggression when exposed to the male model, compared to showing verbal aggression when exposed to the female model.

Albert Bandura studied aggression in children (the Bobo doll studies) by observing their behaviour. Explain the advantage of using behavioural counts in research.
The use of behavioural counts allows objective quantitative data to be collected reducing observer error.

Describe the evidence for mirror cells in the brain being involved in observational learning.
Research suggests that observation learning and the imitative behaviour which occurs subsequently are due to the existence of **mirror neurons**.

SCIENCE INQUIRY SKILLS

Ethics in Psychology

Identify how the following experiments contravened current ethical guidelines:

Key study	Ethical conduct	Alternative approach to minimise ethical concern
Watson and Rayner's "Little Albert"		
Bandura, Ross and Ross's "Bobo doll" study		
Seligman's learned helplessness experiment.		

HELPFUL ONLINE RESOURCES

Access the full APS Code of ethics here: https://tinyurl.com/29m6n7xv

Read about the impact of mirror neurons on observational learning in the media: https://tinyurl.com/2v63rkfh

You can read more on this research here: https://tinyurl.com/yn4rwsnw

LEARNING REVISION QUESTIONS

Question 1
At a party, your friend keeps popping balloons with a pin. After the fifth one you notice that your muscles tense whenever his hand nears a balloon. In this example:

a. The pin is the unconditioned stimulus
b. Shaping of a response is formed
c. Tensing is a reinforcer
d. The popping sound is the unconditioned stimulus

Question 2
When a response occurs to a stimulus similar but not identical to the one used in conditioning, _____ has occurred.

a. Spontaneous recovery
b. Extinction
c. Discrimination
d. Generalisation

Question 3
A child has learned to avoid a furry black cat. However she still plays with her aunt's short-hair tabby. Her response demonstrates:

a. Negative transfer
b. Extinction
c. Discrimination
d. Generalisation

Question 4
James was still getting used to living in his new house when one night a fierce thunderstorm occurred. During the storm, a tree was uprooted and crashed through James' bedroom window. For the next few nights, James woke several times each night with his heart pounding in fear, but it was in response to noises such as dogs barking or wind in the trees.

What characteristic was James displaying every time he woke?

a. Stimulus generalisation
b. Stimulus discrimination
c. Spontaneous recovery
d. A conditioned phobia

Question 5
Which of the following is a positive reinforcer?

a. Putting on your seatbelt before driving
b. Having a ten-minute break after studying effectively for thirty minutes
c. Buying your mother a box of chocolates for her birthday
d. All of the above are examples of negative reinforcement

Question 6
In the Australian film Babe, several pigs were used to play the lead role, in which a pig was portrayed as having human emotions, thoughts and behaviours. The animals were trained to do numerous tricks such as opening gates and rounding up sheep. The term which best describes the type of training/learning these animals experienced in order to accomplish these tricks is:

a. Classical conditioning
b. Vicarious classical conditioning
c. Shaping
d. Counterconditioning

Question 7
The experiment conducted by John Watson with a participant known only as Albert B., involved research designed to test the notion that:

a. A conditioned reflex is an automatic response based on past experience
b. Fears can be acquired through the process of classical conditioning
c. Punishment given in response to undesirable behaviours cause fear
d. Ethical considerations need not apply to every research study

Question 8
B.F. Skinner conditioned a pigeon to press a lever upon the presentation of a green light, while not responding to the illumination of a red light. This ability of the pigeon to differentiate between two stimuli is known as:

a. Stimulus distinction
b. Generalisation
c. Discrimination
d. Illumination differentiation

Question 9
An employee pay-policy comparable to a fixed ration schedule is:
a. Paying employees a fixed salary
b. Paying employees on a piece-work basis
c. Paying employees at the end of the day
d. Paying employees for good quality work only

Question 10
Carlos consistently drives beyond the state's speed limits. Recently he was given a $105 speeding ticket. He now never exceeds the speed limit. The speeding ticket served as
a. Avoidance learning
b. Negative practice
c. Negative reinforcement
d. Punishment

The following information is relevant to questions 11 and 12.
A researcher was interested in establishing an aversive response in cats to the flash of a red light. The researcher paired the flash of the red light with a loud, frightening noise. After a number of trials, the cats displayed fear responses to the red light alone.

Question 11
In the study above, the conditioned stimulus is the
a. Loud noise
b. The pairing of the noise and the light
c. The red light
d. The fear response displayed by the cats

Question 12
After the trials were completed, the researcher also investigated the cats' response to other stimuli. It was found that the cats did not exhibit any fearful response to the flash of a green light, nor to sudden darkness. What aspect of conditioning was being shown by the cats here?
a. Stimulus generalisation
b. Conditioned emotional responses
c. Extinction
d. Stimulus discrimination

Question 13
Jane's parents have joined a Flybuys/Frequent Flyers program, in which they receive points for purchasing goods and services which can later be exchanged for free flights and accommodation anywhere in Australia. The more money spent, the greater the number of points accumulated and later exchanged for particular 'rewards'. For example, a flight to the Gold Coast can be exchanged for 3000 points; a night at the Novatel in Melbourne can be exchanged for 1100 points. The FFP scheme is an example of:
a. Fixed-interval schedule
b. Variable interval schedule
c. Variable ratio schedule
d. Fixed-ratio schedule

CHECKING FOR UNDERSTANDING

Identify the type of data gathered from Banduras Bobo doll experiment.

Briefly discuss why inter-rater reliability is important when conducting behavioural counts in research?

Identify one advantage of using behavioural counts in psychological investigations.

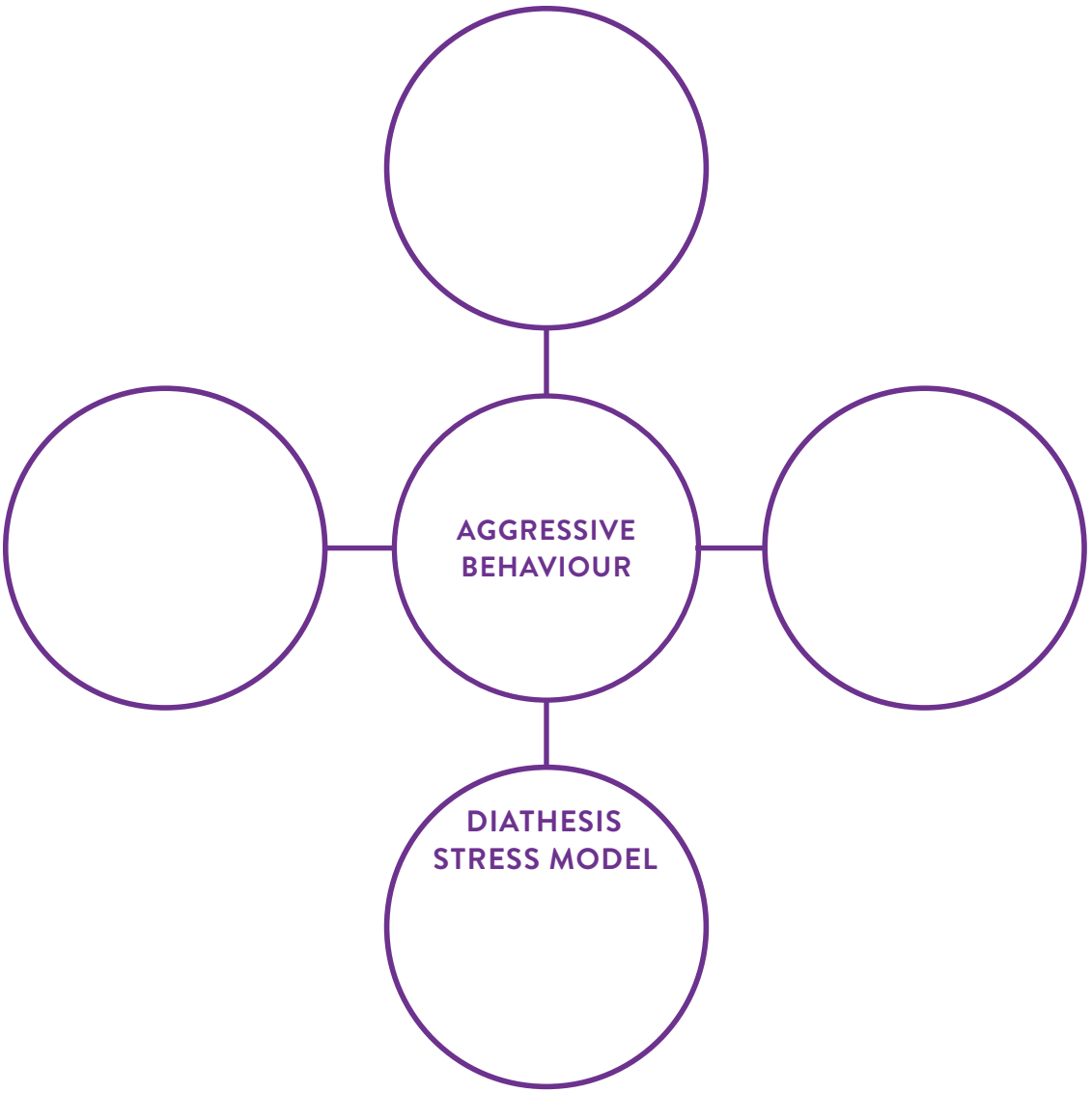
Discuss two factors that influence observational learning:
Factor 1:

Factor 2:

How does observational learning differ from operant conditioning?

Use the space below to show the Biopsychosocial factors which may be involved in the development of aggressive behaviour.

Prior to completing this you will need to have an understanding of the Diathesis-Stress Model. See here for details: **https://dictionary.apa.org/diathesis-stress-model**



SCIENCE AS A HUMAN ENDEAVOUR - REAL WORLD APPLICATION

Communication and collaboration

Collaboration between psychologists and stakeholders progresses research, understanding and enterprise. It requires shared evidence from many sources in a multidisciplinary approach.

The concept of observational learning has intrigued not only other researchers of Psychology, but those in other fields such as education, politicians, wellbeing, advertising, and media. Bandura's research raises the question, if children can learn aggressive behaviours from brief exposure to aggressive models in a lab, how much of their learning is influenced by the exposure to specific behaviours in video games and television?

Research by Anderson and Bushman et al.; (2016) found extensive evidence to suggest a causal link between exposure to violent media and aggressive thoughts and behaviours. Long term exposure to violence has been shown to desensitize us to their effects. More recent research by Craig Anderson and Karen Dill investigated the link between video game violence and aggressive behaviour. They found that in lab studies, students who played a violent video game behaved more aggressively than those who had not played a violent game. (Video game violence, 2020).

Stretch and challenge activity:
Investigate the effects of viewing media violence.
Some suggested articles:
https://tinyurl.com/j2tyejr6
https://tinyurl.com/rw3dtrrj
https://tinyurl.com/jkanhuuz
https://tinyurl.com/msh4zez

90% of popular games portray violence

You can also complete your own research, making sure that you only use reliable sources.

5.4 PERSONAL DIFFERENCES IN LEARNING

There are personal differences in the way we learn.
- Describe how the characteristics of the learner influence their learning.
- Describe how cognitive behavioural therapy could be tailored to meet different people's needs.

2022 Subject Outline | Stage 2

Learning is central to human survival, but the process is difficult to define because it takes so many different forms. In general, any relatively enduring change in either our potential to behave in particular ways, or our knowledge, that results from experience is known as learning. The process of learning is essential for us to survive in our environment, plan for the future, and acquire the social and cultural rules of our society.

This topic has covered three universal ways that humans and animals learn.

People also learning through instruction – this is the type of learning you are exposed to every day at school, where there is a deliberate intention to teach a new skill, piece of knowledge, or behaviour.

Whilst you have just learned that there are universal ways people learn, there are also personal differences in the way we learn. Due to the uniqueness of individuals, we all learn at different rates and have strengths and weaknesses in different areas of our learning. The speed at which an individual learns is dependent upon a combination of many personal characteristics.

Classical Conditioning
Learning through association of two previously unrelated stimuli

Figure 5.4.1: The classical conditioning key researcher was Ivan Pavlov.

Operant Conditioning
Learning through reinforcement or punishment

Figure 5.4.2: The operant conditioning key researcher was B.F.Skinner.

Observational Learning
Learning by observing a role model

The key researcher for Observational Learning was Albert Bandura.

HELPFUL ONLINE RESOURCES

To read about observational learning for students diagnosed with autism.

Children with autism have a deficit in the development of imitation skills thus contributing to the difficulty in social and emotional exchanges with others. Despite a wealth of research in support of a relationship between exposure to violence and learned behaviour, individual differences play a role in the learning process. **https://rdcu.be/ccaGa**

Consider the members of your family, or several of your best friends. Even though you have things in common, or maybe you don't, perhaps you are the same age, or maybe you are different ages – what makes each of you unique as a learner? Do you all learn the same way? Do you all learn at the same speed? Do you even want to learn the same things? Do some things seem to run in families, for example is everyone in your family great at maths, or are they all excellent golfers?

Personal differences in the way we learn

Learner characteristics can be personal, academic, social/emotional, and/or cognitive in nature.

Personal characteristics often relate to demographic information such as age, gender, personality, maturity, socio economic status, cultural background, and specific needs of a learner such as particular skills and disabilities for and/or impairments to learning.

Academic characteristics are more education and/or learning related such as learning styles, learning goals (of an individual or a group), prior knowledge, educational type, and educational level.

Social/emotional characteristics relate to the group or to the individual. Examples of social/emotional characteristics are group structure, place of the individual within a group, motivation, self-image (also feelings of self-efficacy and agency), mood.

Cognitive characteristics relate to such things as attention span, memory, mental procedures, and intellectual skills which determine how the learner perceives, remembers, thinks, solves problems, organises and represents information in her/his brain.

These learner characteristics influence learning and have an impact on the speed at which learning occurs and the degree of support and guidance required during the learning process.

CHECKING FOR UNDERSTANDING

1. The table on the next page has been partially completed with some of the characteristics of learner listed above. Fill in the remaining sections of the table, some rows have been left blank – you may choose to select additional learner characteristics from the list above.

2. Identify a Learning Activity for each of the learner characteristics listed in the left hand column. Suggest how the learner characteristic may influence or impact the learning process for your suggested activity. (for example – if learning algebra, age will be a factor, as you need to be high school age to be at a cognitive level to understand algebra).

CHECK YOUR SCIENCE UNDERSTANDING

	Speed at which learning occurs	Support and guidance required during the learning process	Learning Activity (e.g. learning a new language, how to ride a bike, algebra, surfing)
Prior knowledge	Prior experience has the potential to accelerate the learning process.	Less experience – need for detailed explanations and repetition may be required.	
Cognitive Ability	Higher Intelligence – pace of learning may be faster. Learning disability – pace of learning may be longer.	Learner may require steps to be broken down into smaller chunks, and greater reinforcement than others.	
Motivation for learning	Higher motivation is likely to lead to faster learning, less need for extrinsic rewards.	Lower motivation is likely to lead to slower learning, and greater need for positive reinforcement.	
Personality	Learners whose personality is open to feedback are more receptive to instruction and advice.	Learners who lose patience easily, cannot accept advice will be slower in developing their skills.	
Age			
Gender			
Generational differences			
Learning Styles			

Cognitive Behaviour Therapy

You will recall learning about CBT in topic two, where we looked at how **Cognitive Behaviour Therapy** can be used to treat anxiety and depression. Cognitive-behavioural therapy has its theoretical foundations in classical conditioning, operant conditioning, social learning (observational learning).

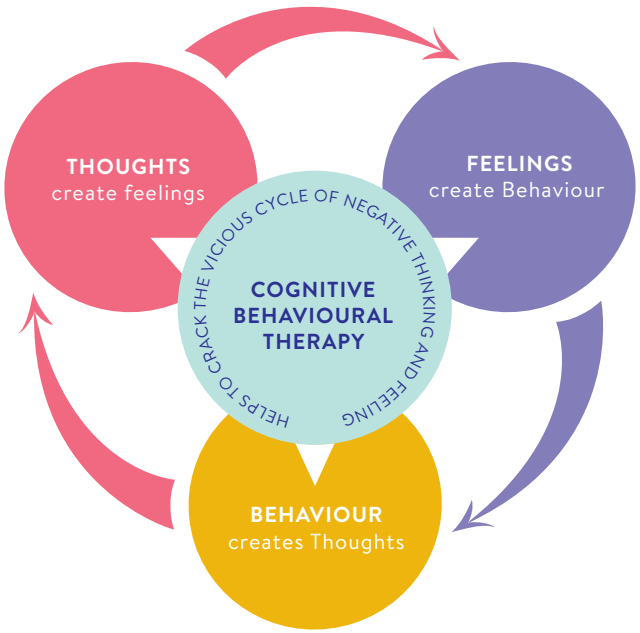


Figure 5.4.4 CBT uses the interaction of thoughts, feelings and behaviour as the basis for intervention

CBT views problematic behaviour as fundamentally learned. It therefore makes sense that undesired behaviour can be unlearned, and desired behaviour, such as new replacement skills, can be learned.

Given what we have just explored with regard to the individual characteristics of learner, it is therefore important to tailor CBT to meet individual people's needs.

Each person's diagnosis of anxiety, depression, stress, anger management, addiction, hostility, post-traumatic stress disorder or other mental health concern will be unique to them. In CBT the therapist and client collaborate to change the client's environment, help the client learn new skills, and modify the client's thinking patterns.

It is important that therapists tailor the treatment to each client's needs, as these may vary based on the diagnosis, the age, the willingness to learn, their personality, and their diagnosis, much the same as what we now know about how people learn differently. There are many tools, templates, worksheets, diaries and strategies for assisting clients with the cognitive therapy, there is no one strategy that suits all clients equally.

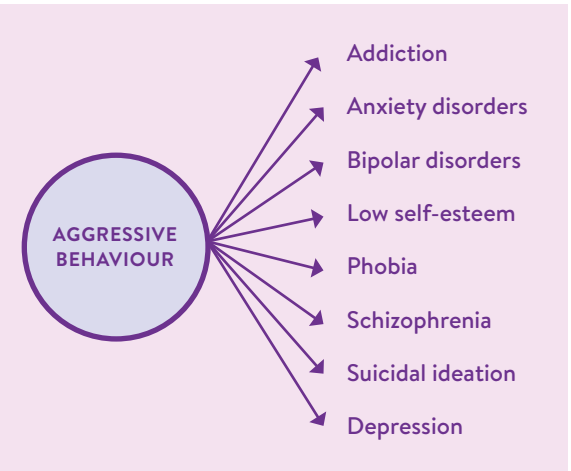


Figure 5.4.5: CBT can be used as an intervention for a wide range of mental health disorders.

CHECKING FOR UNDERSTANDING

Read the following scenarios, then complete the table below. This task will enable you to practice working through one example of a cognitive restructuring tool and demonstrate your understanding of how to tailor the behavioural component of each person's therapy to meet their individual needs.

Joel (19) was team captain of his football team, but an unexpected fight with another teammate prompted his parents to meet with a clinical psychologist. Joel was diagnosed with a depressive disorder after showing an increase in symptoms over the previous three months. Several recent challenges in his family and personal life led to this aggressive outburst on the field.

Aanya (34) had a history of depression and sought treatment after her marriage ended. Her depression was characterized as being "controlled by a lack of assertiveness and motivation to seek help".

Toni (62) is described as having "nonchronic depression" which appeared most recently at the onset of her husband's diagnosis with brain cancer. Her symptoms were loneliness, difficulty coping with daily life, and sadness.

Aadila (14) is struggling with motivation to attend high school. She is staying home, refusing to get out of bed, and not responding to any of her friends' messages, or parents pleas to return to school.

Dysfunctional Thought Record and recommended behavioural strategies

Scenario	Date, Time, Situation	Automatic Thought	Emotion	Alternative Thought	Outcome	Replacement Behaviours
	When did the thought occur? What was the context? What was happening at the time and prior to the thought?	Describe the thought. Rate how much you believed it out of 100%	What feelings came to you at the time? How intense were they out of 100%?	What is a more adaptive alternative? Is there another potential solution?	Now re-rate how much you believe the original thought, and your emotions, out of 100%	Suggestions for alternate behavioural strategies
Joel						
Aanya						
Toni						
Aadila						

REVISITING KEY CONCEPTS

There are personal differences in the way we learn.
Describe how the characteristics of the learner influence learning. Learner characteristics which include personal, academic, social and academic characteristics have an impact on the speed at which learning occurs and the degree of support and guidance required during the learning process. Some people are more suited to one style of learning than others.

Describe how cognitive behavioural therapy could be tailored to meet different people's needs. Therapists can tailor the specific behavioural strategies provided to clients such as recommending a change in diet, social outings, structured pleasant activities or even assertiveness training. The cognitive restructuring strategies can also be tailored to meet individual peoples age, motivation and willingness to engage with different methods for recording and challenging their thinking.

SCIENCE INQUIRY SKILLS

Extended Response Question:
You may be asked in your Stage 2 Examination (Assessment Type 3) to design a research investigation. It is recommended to complete this task under timed conditions (20 minutes).

Using your knowledge of learning theory. design a research investigation that aims to increase participation in school sport / clubs at lunch time in schools.

Your design may include the following:
- Identification of a hypothesis or inquiry question
- Identify appropriate variables including
  - Dependent variable
  - Independent variable
  - Variables that should remain constant
  - Extraneous variables
- Description of a suitable method to be followed
- Justification of the method and type of investigation and link to the theory?
- Explanation of the type and amount of data to be collected
- Discussion of ethical considerations and how these may be addressed.

Science Inquiry Skills

Science inquiry skills are fundamental to students investigating the social, ethical, and environmental impacts and influences of the development of scientific understanding and the applications, possibilities, and limitations of science. These skills enable students to critically consider the evidence they obtain so that they can present and justify conclusions.

SIS 1 **BIOPSYCHOSOCIAL APPROACH**

Psychology uses a biopsychosocial approach to frame an understanding of behaviour, that is, behaviour is analysed and described in terms of biological, psychological and sociocultural factors.

- **Explain how biological, psychological, and social factors could determine the cause and expression of certain psychological phenomena.**
- **Explain how biological, psychological, and sociocultural factors could influence solutions to problematic psychological phenomena.**

2022 Subject Outline | Stage 2

The great debate in Psychology has centred around the influence of nature vs nurture. That is, which has the greatest influence in the development, manifestation of mental illness, disease, wellness and human behaviour. The Biopsychosocial model was developed by George L. Engel who stated that psychological health and disease it is caused by the complex interaction of Biological, Psychological and Socio-cultural factors. The **Biopsychosocial approach** proposes that one approach alone is not sufficient to fully explain the complexity of human behaviour and psychological phenomenon, with each contributing interactive forces or systems that affect health.

Figure 6.1.1: Twins are often used in genetic research.

The Biological component contributes **genetics** factors including **neurochemistry** and previous experience of **trauma**. For example, the greatest risk factor for developing Schizophrenia (Sz) is the existence of a first degree relative with the disease. If one parent develops the disease, the risk of a child developing Sz is approximately 13%; rising to 50% when both parents are affected. Extensive research conducted using twin studies has shown heritability for schizophrenia increased the risk for monozygotic (identical) twins to 40-50%, whereas genetic vulnerability was significantly lower in dizygotic (fraternal) twins reflecting the risk factor of those with a first degree relative at 13-15%. Other genetic factors contribute to a range of psychological diseases. For example, D2 dopamine receptors are more prevalent in patients with addiction than the rest of the population.

Adoption studies have been used for comparison where twins have been adopted separately at birth. These studies have found offspring to be at risk regardless of when the parents had been diagnosed with the disease prior to or after the adoption. Risk is high regardless of being raised by the birth mother or adopted mother. Interestingly, offspring of mothers without schizophrenia did not have an increased risk when raised by psychotic adoptive parents. (PV Gejman, AR Sanders, and J Duan, 2010).

Whilst it is clear genetics play an important role in the development of schizophrenia, evidence from adoption studies support the notion that other non-biological factors influence the development regardless of genetic vulnerability.

The **Psychological component** contributes factors such as cognitive distortions which can trigger the onset or perpetuation of mental illness and psychological distress such as Depression and Anxiety. Psychological trauma and neglect, particularly in childhood can shape thinking and create negative schemas which often reinforce attitudes and beliefs alongside elevated sensitivity of feelings and emotions.

Figure 6.1.2: The complex interaction of BPS factors.

The Socio-cultural component is no less complex in this equation as this can involve deeply entrenched belief systems based on cultural values, religion, family, and social expectations. Social expectations and pressures continue to inform and reinforce cognitive distortions previously discussed in the Biological component. A great example being the fashion industry and media. Together these industries promote the social concept of beauty. They emphasise extreme thinness as the 'ideal' body, despite the health risks thus increasing the likelihood of psychological disorders such as Bulimia and Anorexia. If we consider the cultural component, the influence or prevalence of many psychological disorders will vary based on the cultural values of the community. Anorexia is less common in non-western countries where beauty is not attributed to thinness. Voluptuous women in Venezuela, Columbia and Spain are considered the ideal body type with thinness being an indication of poor health and low fertility. Many psychologists have noted an increase of mental illness such as eating disorders, body dysmorphia, depression and anxiety in the male population and gender diverse communities due to the increasing pressure of Socio-cultural factors which are further reinforced by Psychological and or genetic factors.

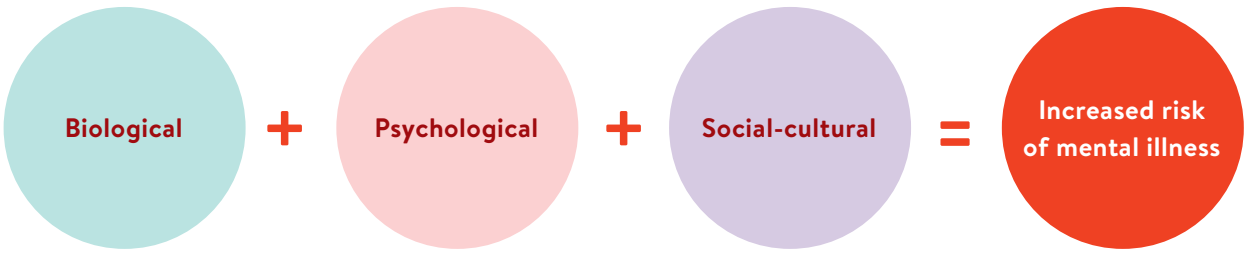


Figure 6.1.3: The complex interaction of BPS factors.

Health psychologists believe that all three components must be synthesised to enhance empirical research for mental health education, health policy and identifying barriers to accessing services. The Biopsychosocial model provides an opportunity to explore an integrative approach to enhance mental wellbeing whilst providing opportunity and exploration to find solutions to problematic psychological phenomenon such as addiction, depression, psychosis and eating disorders.

The Biopsychosocial model provides a holistic approach to understanding the complexity of psychological phenomenon and prevalence. This enables practitioners and researchers alike to consider how this information can be used to develop treatments, service provisions and interventions whilst identifying gaps in these provisions and further areas for psychological research.

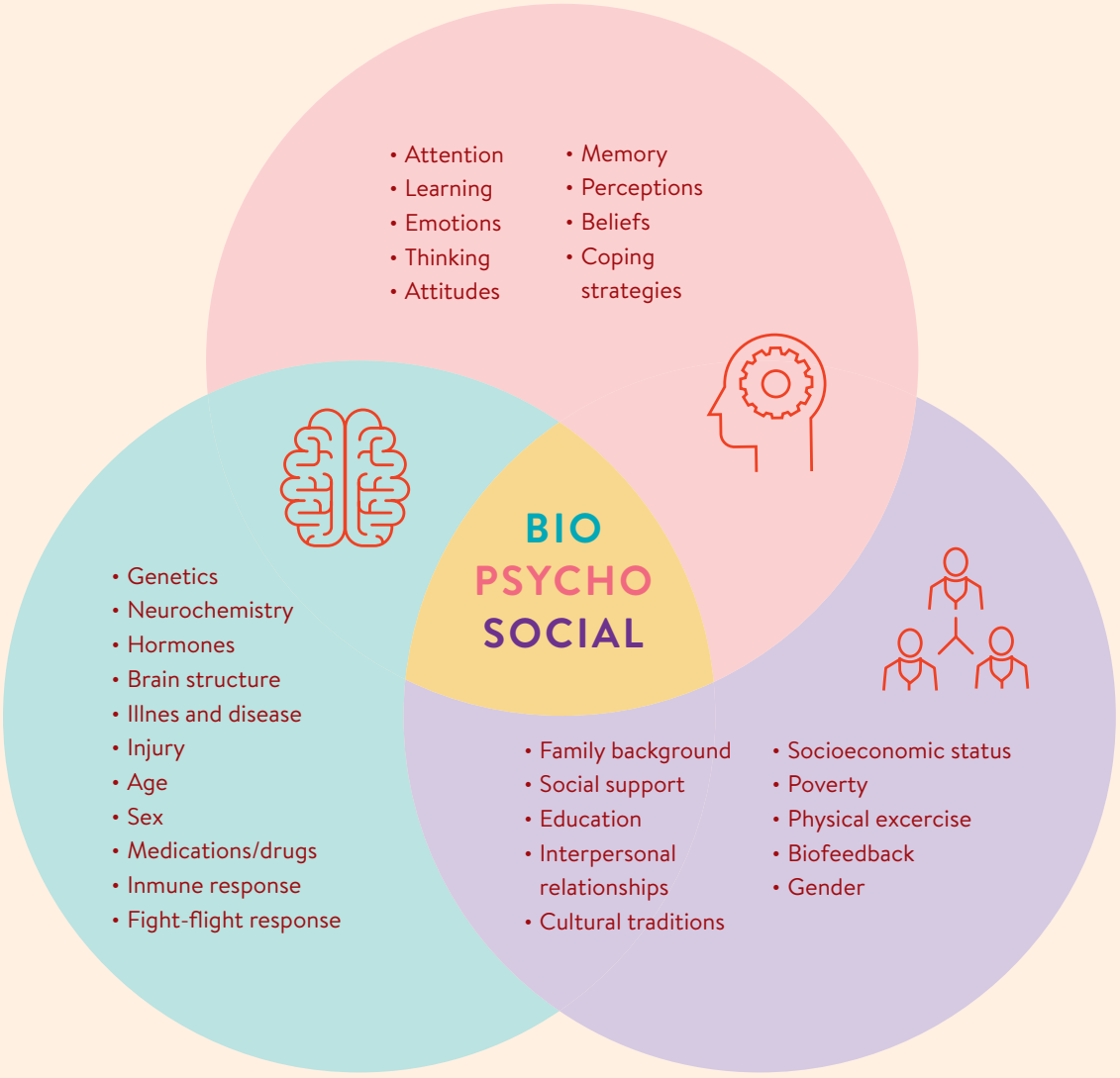


Figure 6.1.4: The Biopsychosocial model.

Given the social and cultural factors involved in the expression and acceptance of mental illness, the context of culture is essential to the application of the Biopsychosocial model. Ensuring community **stigma** is not inadvertently reinforced nor cultural beliefs misunderstood helps prevent further barriers for people to access treatments and interventions. **Symptomology** needs to be understood within the context of the individual's experience therefore providing enhanced opportunities for developing culturally specific programs, diagnosis and treatments that align to the values of the individual or group. Without the understanding of culture, psychologists will confront barriers when proposing diagnosis and treatment plans.

Lim et al (2018) conducted an explorative study into transcultural psychiatric outpatient clinics to develop a deeper understanding of attributional styles in the role of mental illness. Participants were of Muslim background. Of the 118 participants, 43% (21) were positive that Jinn (a supernatural spirit often associated with evil rather than good) was responsible for their psychiatric symptoms with 87.2% experiencing hallucinations throughout their life. Lim et al reported that "*Among the relatively large proportion of eligible patients who did not participate (58.5%), many expressed a fear for stigmatization or metaphysical repercussions if they spoke about jinn*" thus explaining why many individuals continue to suffer from their symptoms rather than seeking medical and/or psychological support. This research provides further support for the importance of cultural sensitivity and awareness when conducting psychological research with diverse cultures and consideration of interventions.

Historically addiction was explained and treated with the Biomedical model. Current models apply the biopsychosocial model, based on evidence demonstrating the complexity of addiction involving the interaction of the individuals biological-genetic factors, environment (socio-cultural), their thoughts, beliefs and behaviour (psychology) in maintaining health and in development of disease. The biopsychosocial model allows practitioners to account for each component in the development of interventions, treatments, and education of prevention. In essence one explanation alone is not sufficient in fully explaining addiction alongside other psychological phenomenon. As seen in the diagram, the initiation of addiction is not confined to a single starting point but based on the unique experiences of the individual, not excluding a genetic pre-disposition to disease.

The model shown in Figure 6.1.5 examines some of the factors that may influence specific psychological phenomenon and how we can apply these components to explain the occurrence of addiction, and assist in developing solutions.

HELPFUL ONLINE RESOURCES

Research article Expanding the Biopsychosocial Model: The Active Reinforcement Model of Addiction: https://tinyurl.com/tky7jv9

MULTIFACTORIAL CAUSES OF ADDICTION

NOTE: The Biopsychosocial model proposes the development of psychological phenomena can initiate from any of the key components, thus it does not necessarily start from a Biological position.

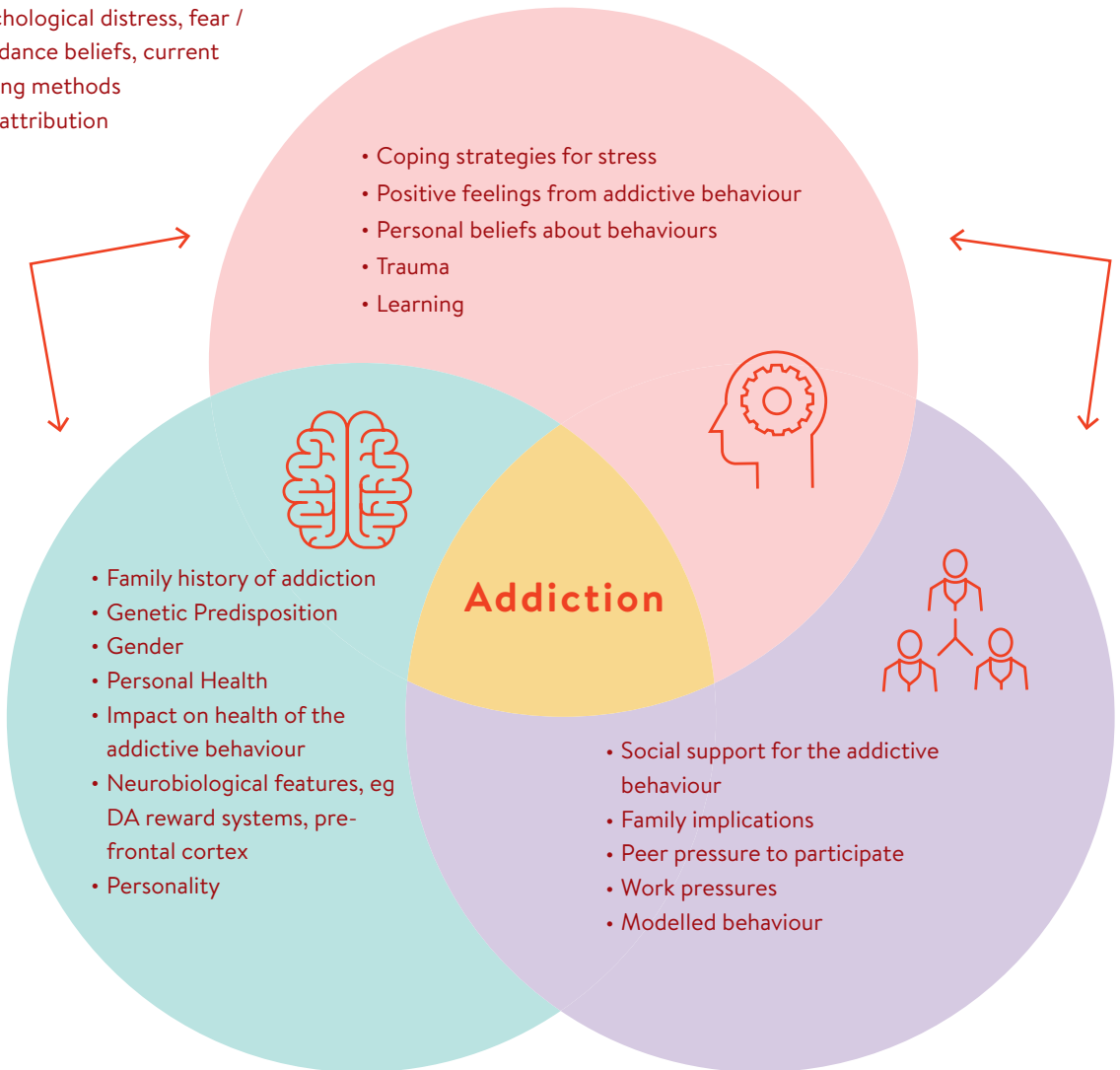


Figure 6.1.5: The complex relationship between BPS factors and their role in addiction.

EXTENDED RESPONSE QUESTION AND POSSIBLE RESPONSE

Discuss the link between the psychological and biological component of the Biopsychosocial model to explain addiction.
(Tip, be explicit when discussing your chosen elements from each component)

Possible response:
Regarding the biological component, increased dopamine is associated with feelings of pleasure because dopamine receptors in the **dopamine pathway** create lasting memories which link the drug or behaviour with pleasure. This clearly explains chemical addictions such as smoking but also that dopamine plays a role in behavioural addictions, such as gambling and videogame addiction. A variant of the **D2 dopamine receptor** (D2A1) has been found to be more prevalent in pathological gamblers than in the general population meaning some individuals have a biological vulnerability to the development of an addiction.

Many studies have shown that pathological gambling runs in families, while it may be possible to explain this in terms of **modelling**, it is also possible that the phenomenon results from genetic as well as environmental factors. Twin studies have found that shared genetic and environmental factors account for 35-54% of the vulnerability to pathological gambling, with genetic factors being the most important.

From a psychological perspective, **classical conditioning**, a learning model, can account for the physiological response that individuals with an addiction can experience when faced with environmental cues such as seeing others drink, smoke, etc or seeing pictures of cocaine, drink etc. This can also be applied to cravings that individuals with an addiction can experience. The role of the prefrontal cortex (biological approach) and classical conditioning (psychological approach) suggest a possible explanation for maintenance and relapse of addiction. If the prefrontal cortex gets damaged the individual might find it harder to disassociate addiction with the stimulus.

Both the biological model and the learning model help to explain addictions. The biological model provides support for the nature debate. Whereas the learning model provides support for the nurture debate. The learning model mainly helps to explain the maintenance and relapse of addiction while the biological model can explain, initiation, maintenance and relapse of addiction. Both models also suggest that behaviours are deterministic and therefore the individual has no control over their addiction. A combination of both models may be the best way to explain all three stages of addictive behaviour and therefore the addiction.

The biopsychosocial model proposes the development of psychological phenomena can initiate from any of the key components, thus it does not necessarily start from a Biological position.

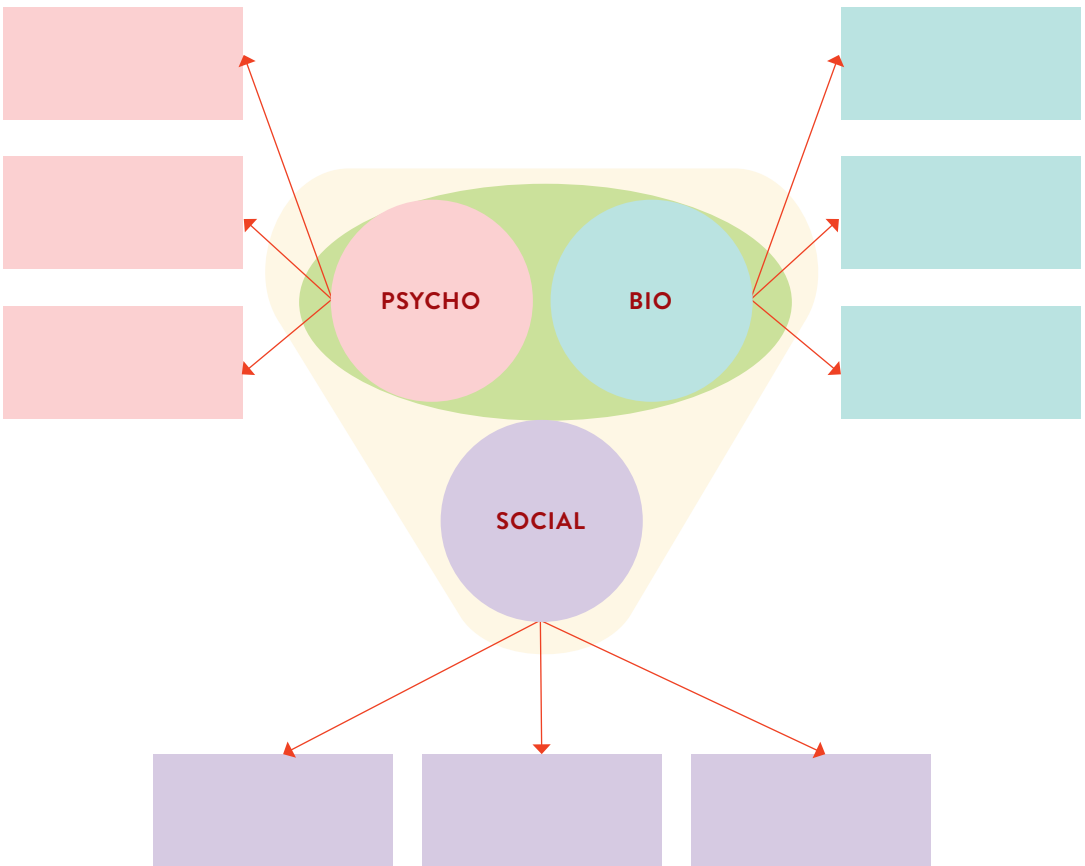
Addiction may arise due to the exposure to substances or other addiction behaviours being **modelled** and therefore the individual associates (**psychological**) spending time with specific people, having a good time and the addictive element, thus they have **learned (psychological)** that this **behaviour** is what is accepted or expected in specific circumstances. Over time the individual begins to develop a **tolerance** (**biological**)

and therefore increases use due to the **reward system** (**biological**) no longer being activated at the previous consumption level.

The **biopsychosocial model** describes the linkage **of** mental illness causes. The **diathesis-stress model** talks about the relationship **between** potential causes of mental illness and the amount that people may be sensitive or vulnerable to react to those causes, supporting the notion of interaction between nature and nurture.

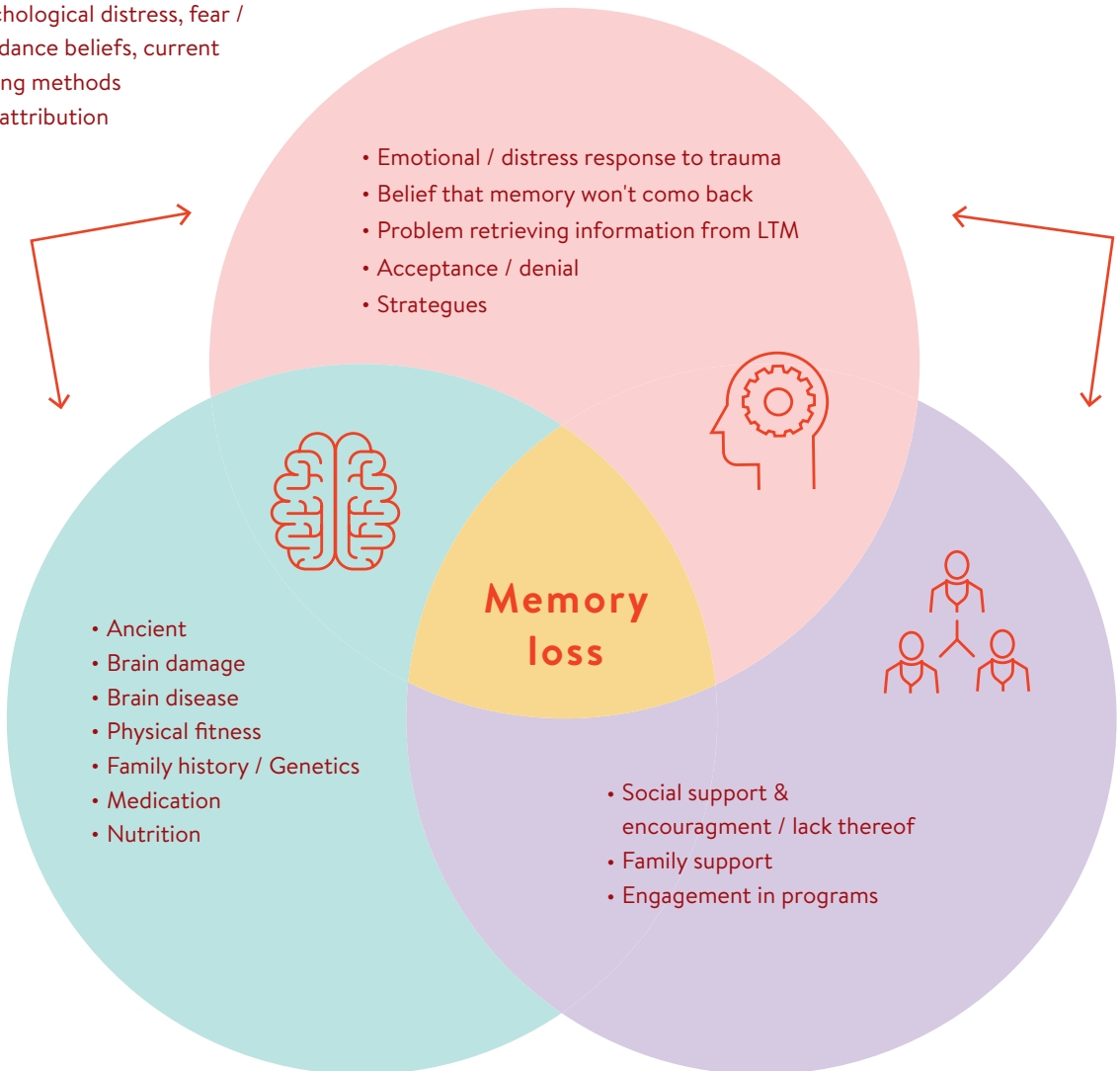
EXTENDED RESPONSE: SCENARIO ONE

Describe how **biopsychosocial factors** work together to create **strength-based solutions** for Aboriginal individuals, families or communities. Plan your answer using the filter prior to composing your answer.



THE PHENOMENA OF MEMORY LOSS IN DEMENTIA PATIENTS USING THE BIOPSYCHOSOCIAL MODEL

PSYCHO
Thoughts, emotions and behaviours such as psychological distress, fear / avoidance beliefs, current coping methods and attribution

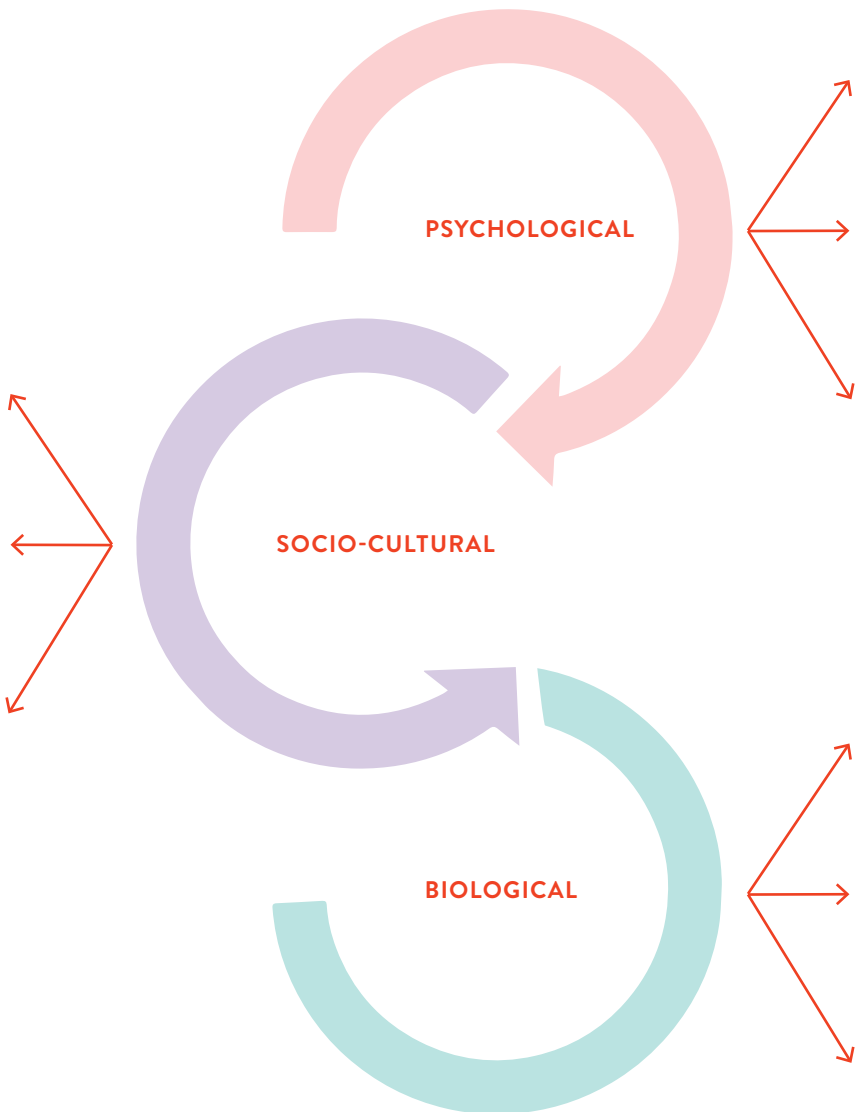


BIO
Physiological pathology
Physical health
Genetic vulnerabilities

SOCIAL
Socio-economical, socio-environmental, and cultural factors such as work issues, family circumstances and benefits/ economics.

EXTENDED RESPONSE SCENARIO TWO

Use the diagram below to plan an extended response to the phenomena of memory loss in dementia patients using the biopsychosocial model. Choose **two** contributing factors from each component. **Explain their role in the development of memory loss.** (Tip for writing an extended response: P.E.E. Make a point, explain, example)



TEACHER NOTE: This activity could be used as a scaffolding task to develop their skills in writing extended exam questions.

FOLLOW-UP ACTIVITY: Explain the development of memory loss in Dementia patients using the BPS model.

EXTENDED RESPONSE ANSWER

SIS 2 **SCIENTIFIC METHOD**

Scientific methods enable systematic investigation to obtain measurable evidence.

- **Deconstruct a problem to determine and justify the most appropriate method for investigation.**
- **Design investigations, including:**
  - **a hypothesis or inquiry question**
  - **types of variables**
    - **dependent**
    - **independent**
    - **constant**
    - **extraneous**
  - **the method to be followed**
  - **justification of the method**
  - **the type and amount of data to be collected**
  - **identification of ethical considerations and how these may be addressed.**
  - **identification of socio-cultural considerations and how these may be addressed**
- **Using information from a range of sources, critically evaluate and appropriately acknowledge those sources.**

2022 Subject Outline | Stage 2

Psychologists, like physicists, biologists, chemists, geologists, are scientists, and thus approach and explore ideas they are interested in researching using the scientific method. Whether it is investigating the effects of mobile phone use on children's sleep, the impact of a new medication for anxiety or researching the long-term effects of high school bullying - scientific methods enable systematic investigation to obtain measurable evidence.

STEPS IN RESEARCH: AN EXAMPLE

The use of a scientific method provides confidence in the findings and can be researched again by other scientists to draw verifiable conclusions. With the use of standardised instructions research can be replicated making this research design highly reliable. To see how the scientific method works, consider the example of some research by Neil Kirby and Julia Harries from Adelaide University in September 2020.

Step 1 – Deconstruct - Identify the area for future research and determine the research aim
Kirby and Harries were interested in finding out whether a Pilot Program from Autism SA was suitable for teachers to deliver in a school setting with 13–17-year-olds, and whether the students would benefit from the program.

Step 2 - Deconstruct - Do background research and collect information
Previous research showed that the program was generally effective but had previously been held at Autism SA by trained facilitators. A previous trial had been conducted in 2016 in schools, but with children aged 7 – 13. The recommendation from the original research was to develop the program for older students, and to enable teachers to deliver the course.

Step 3 - Design: Identify the research question and formulate a hypothesis
Kirby and Harries asked the question: "can school staff effectively run the program for 13-17 year olds" and developed the hypothesis that :"students aged 13-17 years will benefit from school staff running the iMsocial program at school:.

Step 4 - Design: Design a research method to test the hypothesis
Participants were selected from two schools. School 1 (n=3 students) will deliver the program for a full school year. School 2 (n=11 students) ran the program for two terms. Kirby and Harries will use a repeated-measures design to assess the social and communication skills of students using the Social Skills Improvement System (SSiS) at three time points (pre-intervention, post-intervention and 3 months following completion). Skills are rated on the teacher and parent surveys in terms of how often behaviours occur (never, seldom, often and almost always) and on the student survey in terms of 'how true' (not true, a little true, a lot true, and very true). In addition, qualitative questions will be asked. Informed consent, withdrawal rights and appropriate ethical issues were considered.

Step 5 – Collect, present, summarise and analyse the data
57% of students who were functioning below average on the SSiS at pre-intervention improved by at least one level at post intervention. Statistically significant improvements were identified for eight SSiS items including "participates appropriately in class" which teachers rated the most important social skill.

Step 6 – Evaluate procedures and data
Facilitators at the schools found the program helpful, however limited experience with the program may have affected results. Some video content involved primary aged students, so was less appropriate for secondary students. Timetabling the sessions was problematic. The sample size of 2 schools, and 13 students was a limitation. There was no control group used. It is recommended to conduct a further trial with a larger group of participants and further modifications to the program.

Step 7 – Draw a conclusion
Kirby and Harries concluded that the polit findings support the appropriateness and the efficacy of the iMsocial program for 13–17-year-old students.

Step 8 – Report the findings
They study was published by Adelaide University in September 2020

STEPS IN RESEARCH: FLOW CHART

Step 1 - Deconstruct
Identify the area for future research and determine the research aim.

- What is the problem?
- What are you aiming to find out?

↓

Step 2 - Deconstruct
Do background research and collect information

- Brainstorm and break the problem down into smaller parts
- Refine ideas. Which components will have an impact on the solution?
- Who is the population? What are possible samples?
- What are possible variables to investigate?
- Prioritise the components - which components are likely to be able to be researched?
- Which components are likely to lead to a solution.

↓

Step 3 - Design:
Identify the research question and formulate a hypothesis

- From the options in the deconstruct phase, identify the hypothesis / investigable question
- Identify independent, dependent, constant and extraneous variables.

↓

Step 4 - Design:
Design a research method to test the hypothesis

- Determine the type of research design as experimental, observational, or qualitative.
- Determine the type of data to be collected: objective, subjective or qualitative
- Identify the type and amount of data to be collected
- Identify the ethical and socio-cultural considerations and how these may be addressed.

Justify the methods chosen in this research design

↓

Step 5 – Collect, present, summarise and analyse the data

- Carry out the research
- Present the data in appropriate graphs and tables
- Calculate and use appropriate descriptive statistics (means, medians)
- Identify and discuss trends, patterns, and correlations
- Interpret standard deviations.

Step 6 – Evaluate procedures and data

- Identify sources of uncertainty in the data and procedures
- Discuss validity and reliability of the data and procedures including internal and external validity
- Evaluate sample size and sample representativeness
- Make specific and meaningful recommendations for subsequent investigations.

Step 7 – Draw a conclusion

- Accept or reject the hypothesis / answer the research question
- Select and use evidence and scientific understanding to make and justify conclusions.
- Explain the limitations of conclusions.
- Explain why the results of some investigations may not lead to definitive conclusions.
- Discuss the relevance of the findings beyond the particular study.

Step 8 – Report the findings

The report may include:

- introduction with relevant psychological concepts, and either a hypothesis and variables, or an
- investigable question
- the method or process that was implemented
- identification and management of safety and/or ethical risks
- results, including table(s) and/or graph(s)
- analysis of results, including identifying trends and linking results to concepts
- evaluation of procedures and their effect on data, and identifying sources of uncertainty
- conclusion, with justification.

CHECKING FOR UNDERSTANDING

Fill in the flow chart below to show an understanding of the steps in psychological research. The research problem has been identified for you.

Step 1	→	Do high school students who sleep 8 or more hours per night concentrate better in class than those who sleep less than 8 hours per night?
Step 2	→	The possible ways to research this include...
Step 3	→	It is hypothesised that...
Step 4	→	The participants will need to.... The type of data that will be collected will be....
Step 5	→	Data will be presented as.... The raw data should show that....
Step 6	→	Strengths and limitations of the design might be....
Step 7	→	The findings suggest that.....
Step 8	→	The findings will be reported to...

BODY POSITIVITY IN MUSIC: CAN LISTENING TO A SINGLE SONG HELP YOU FEEL BETTER ABOUT YOUR BODY?

The body positivity movement appears to be growing in strength and is a direct response to the stereotypical ways that media represents women. Messages in popular music and videos, for example, often focus on the importance of appearance and present a very specific, unobtainable view of beauty. Not surprisingly, research has demonstrated a direct link between the way that media objectifies and sexualizes women's bodies and the development of poor body image in women.

Fortunately, body positivity is becoming more common on social media (with the hashtag #bopo), and women tend to feel better about their bodies after viewing positive posts regarding healthy body image. This trend led researchers to ask the question: **Does listening to body-positive music influence body positivity?**

First, one group of women watched Colbie Caillat's music video, Try, which has a body-positive message; others viewed Selena Gomez's video, Good for You, which is about looking good for a man. Not surprisingly, women felt better about their own bodies after listening to Colbie Caillat.

Then, to take a deeper look and control for rhythm, melody, tone, and singer, the study authors wrote two versions of a song, only changing the lyrics. As an example, part of the body-positive song lyrics read:

Mirror mirror on the wall, Idon't want to change at all
Because I know I'm beautiful. I have flaws I love them all.

Alternatively, the body-objectifying lyrics read:
Mirror mirror on the wall, I just want to change it all.
No one thinks I'm beautiful, so many flaws.
I hate them all.

Again, women listened to one of the two songs. Generally, women felt better about their own bodies when listening to the body-positive lyrics.

These studies suggest that **listening to body-positive music can promote better body image in women in just 2–3 minutes** (at least compared to listening to body-objectifying music).

Building on that finding, the final study included a neutral song that did not talk about body at all. The lyrics included these words:

Mirror mirror on the wall, of the yellow entry hall.
This house is coloured many-fold, some are pastels some are bold.

The entire song is all about appearance, but it describes a house.

When these neutral lyrics were used, results revealed few differences between listening to the neutral song and the body-positive song. However, when the authors controlled for women with pre-existing body image concerns, they found that those with body image concerns actually reported worse body image after listening to either appearance-related song, as compared to the neutral song.

Such concerns might have **particular implications for teens** who are in a highly susceptible stage of life where the development of their identities, including body image, may be strongly affected by their music choices. For these individuals, **the best choice of music may be one that isn't related to appearance at all, as even body-positive music appears to be triggering**—at least in the short term.

Coyne, S. M., Davis, E. J., Warburton, W., Stockdale, L., Abba, I., & Busby, D. M. (2020). Mirror, mirror on the wall: The effect of listening to body positive music on implicit and explicit body esteem. Psychology of Popular Media. Advance online publication: https://tinyurl.com/9n3fhcnc

DEMONSTRATE INQUIRY SKILLS

Critique the investigation into body positivity in music with regard to research design and method.

Suggest an improvement to the method used in this investigation.

Use the conclusion of this investigation to propose a subsequent investigation that this research team might investigate in the future.

Design Investigations

INDEPENDENT AND DEPENDENT VARIABLES

A variable is a researchable factor that can increase or decrease in amount or kind. In psychology we tend to be interested in things that vary from person to person, or within the same person but varying at different times.

Typical variables researched in the field of psychology include:

- IQ
- Feelings of wellbeing
- Scores on a test
- Concentration levels
- Responses to treatment
- Age
- Gender
- Race
- Performance at school

Every research design has at least one **independent variable** and one **dependent variable.**

An **independent variable (IV)** is deliberately manipulated, or changed, by the researcher to determine its effect on another variable. The researcher plans to manipulate this variable when they are designing their investigation. In the body positivity research, the researchers deliberately changed the lyrics of the song that the participants listened to. The lyrics were either body positive lyrics, body objectifying lyrics, or neutral lyrics.

Typically, simple research involves comparing two groups of people. One group is exposed to the independent variable, and one is not. For example, a researcher may decide to find out the effect of high school students eating breakfast on students' test results. One group of students would eat breakfast, the other would not. The researcher can then make inferences from the results about whether the IV (eating breakfast) made a difference to the student's test results.

The **dependent variable (DV)** is what is measured in the research. Its value *depends* on the IV which is why it is called the dependent variable. In the body image research, the dependent variable was how women felt about their body. In the breakfast example, the DV is the results of the school test. To determine the DV in any psychological research, look for what is being measured. It is typically a number that can be measured with a "tool", such as shoe size, IQ score, test score, rating on a well-being scale, heart rate, number of times someone swears, number of compliments.

To remember the difference between the IV and the DV – turn this little phrase into a simple tune.

"Independent's what you change
Dependent's what you measure!"

Operationalising variables. To ensure that researchers are specific about exactly what the IV is, and exactly how the DV will be measured, we use the term operationalisation to draw out these details.

Consider the following example. If a researcher wanted to determine whether drinking caffeine or water made athletes run faster, we could identify:
IV: Caffeine
DV: Time

To ensure the research is more precise, and the intention of the research is clear we would state the variables as follows:
Operationalised IV: the type of drink [coffee or water]
Operationalised DV: the time taken to run 400 metres.

We can now see in detail what is being manipulated and what is being measured, including *how* it will be measured.

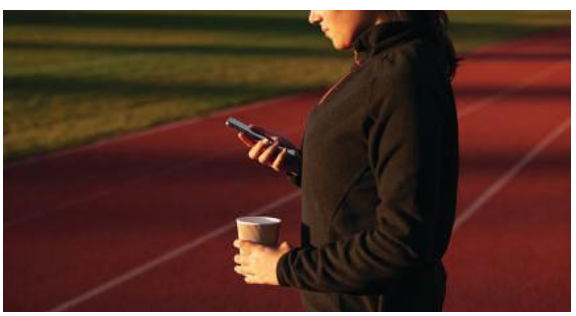


Figure 6.2.1: Does the type of drink (coffee or water) an athlete consumes prior to running, decrease the time taken to run 400 metres?

CHECKING FOR UNDERSTANDING - DECONSTRUCT AND DESIGN PHASE

Operationalise the independent and dependent variables in research

Identify the independent and dependent variables in the following research examples. Operationalise the IV and DV by being as detailed or specific as possible.

1. It is believed that listening to loud music while driving increases the number of accidents in P Plate drivers. To test this a researcher set up a number of orange cones on a driving course. P Plate drivers were asked to drive as quickly as they could around the course, with music playing softly, and loudly. The researcher recorded the number of orange cones hit by the drivers.

   Independent Variable: .....

   Dependent Variable: .....

2. It is believed that listening to white noise (for example, the sound of a fan, or off channel radio station) increases the hours a person will sleep. To test this, participants are asked to play a recording of white noise while they sleep each night for a week and record the total number of hours they sleep each night.

   Independent Variable: .....

   Dependent Variable: .....

3. A researcher is interested in finding out whether adults or teenagers are able to complete mazes faster and with less errors. They seek 20 teenagers from a single school, and one of their parents to participate in some research where they are required to complete 6 mazes in three minutes. The researcher records the number of mazes completed, and the number of errors made.

   Independent Variable: .....

   Dependent Variable: .....

4. A psychologist conducts an experiment to determine if caffeine affects the alertness of people. The amount of caffeine given to participants is manipulated- participants are given drinks containing between 0mg and 150mg of caffeine Participants complete a simple reaction time test 20 minutes after consuming the drink. The reaction time of participants is measured and recorded.

   Independent Variable: .....

   Dependent Variable: .....

5. A group of teachers believe that windy weather can influence children's behaviour at school. They set about counting the number of behaviour referrals for poor behaviour over a two-week period, noting days when it is windy, and days when it is not.

   Independent Variable: .....

   Dependent Variable: .....

6. A University student was interested in finding out whether the temperature of a room influenced cognitive performance. The student divided a group of high school students into three groups. The groups were placed in rooms that were heated to 22°C, 27°C and 33°C. Students were given 15 questions from a NAPLAN Maths test to complete in 20 minutes.

   Independent Variable: .....

   Dependent Variable: .....

Formulating a hypothesis or research question

Once a researcher has identified the variables they are interested in researching, they need to make an educated guess about what will happen in the research, in other words, they will hypothesise about the relationship between the IV and the DV.

A **hypothesis** is a statement, or testable prediction about the likely results of the research. It is what the researcher believes is likely to occur as a result of conducting the research.

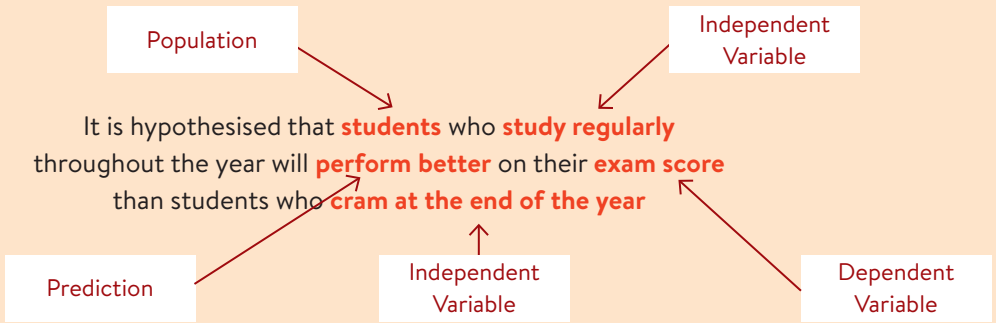
A hypothesis should clearly state the population about which the researcher intends to research so that similar research can be conducted and repeated in the future.

Note the difference between the wording of the two hypotheses below.

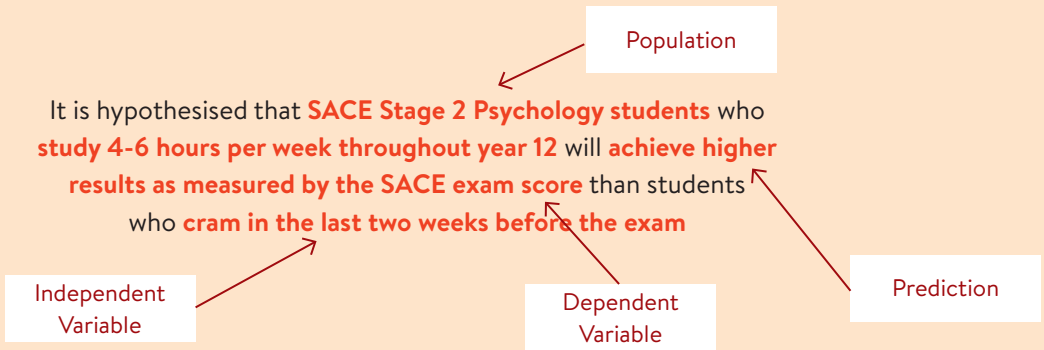
A hypothesis should contain the following elements:

1. A testable prediction about the direction of the interaction between the variables (i.e. – is the DV going to increase or decrease, it is going to be higher or lower as a result of the IV).
2. The population from which the sample is going to be drawn (who are the participants in the research).
3. The independent variable that is being manipulated.
4. The dependent variable that is being measured.

A SIMPLE HYPOTHESIS



AN OPERATIONAL HYPOTHESIS



A **research question** is typically used for Qualitative research, where the findings of the research are likely to come from interviews, thoughts, feelings and statements from participants rather than in numerical form that can be measured through a prediction or hypothesis.

Qualitative Research Questions:

1. Usually start with 'what' or 'how' (avoid beginning qualitative questions with 'why' as this implies cause and effect).
2. Identify the central phenomenon you plan to explore (tell in your question what you are going to describe, explore, generate, discover, understand).

With qualitative research, you will usually have one central question and possibly also some sub-questions to narrow the phenomenon under study further. The sub-questions will generally be more specific.

Examples of qualitative research questions:

1. What are the impacts associated with the social isolation of working from home?
2. What are the experiences of people working night shifts in health care?
3. How would a 4-day working week impact on mental health of employees in Australia?

CHECKING FOR UNDERSTANDING- DECONSTRUCT AND DESIGN PHASE

Writing a hypothesis or research question

For each of the following scenarios, identify the independent and dependent variables, and formulate a hypothesis.

1. Mitchell is interested in whether stress has an impact on teenagers' ability to fall asleep. He investigates a group of 80 year 12 students in South Australia. Students are selected from a pre-test which identifies them as having either high or low levels of stress. Each student keeps a sleep diary for a week and writes down an estimate of how long it took them to fall asleep each night. An average of the time taken to fall asleep over the 7 days is calculated.
   Independent Variable: .....
   Dependent Variable: .....
   Hypothesis: .....
   .....

2. David is interested in whether the colour of the music room affects anxious students' ability to perform their music without error. He believes the darker the space, the calmer the student will be, therefore enhancing their ability to perform. David paints one room a dark colour another pale blue and leaves a third room white. Three year 12 students with anxiety are given the opportunity to perform their exam piece in each of the three rooms. David measures each student's performance by counting the errors in the performance for each room.
   Independent Variable: .....
   Dependent Variable: .....
   Hypothesis: .....
   .....

For each of the following scenarios, write an appropriate research question.

3. A researcher found some data that showed that the proportion of young women who are smoking is increasing, whereas it is decreasing for all other groups. They were interested in finding out possible reasons for this. The researcher decides to conduct a focus group to investigate this topic and needs to come up with a research question to investigate.
   Research Question: .....
   .....

4. 'Binge drinking is a health hazard' is a message that Kylie is interested in researching in her University course. She has seen different advertisements for health campaigns targeting 'binge drinking' in the media and is interested in finding out whether these campaigns are effective, and whether other sorts of persuasive messages could be used to stop 'binge drinking' instead. Write a research question that Kylie might investigate.
   Research Question: .....
   .....

Constant and Extraneous variables

A **constant** is a value that remains the same. When conducting an experiment, it is important for the researcher to maintain control over the many variables that could affect what they are trying to investigate. Ideally, when a researcher designs the research, the only thing that should vary is the **IV** that is being studied. All other factors that could affect the outcome must be strictly controlled by keeping them constant.

For example, consider Scenario 1 from the previous page where Mitchell is trying to determine whether stress impacts a teenagers' ability to fall asleep. Factors such as the specific age of the teenager, their gender, their part time work, the combination of subjects they are studying, the size of their bed, the time of year, weather, relationship status, location of their house, passing traffic, general health and fitness may all be reasons why a teenager may or may not have trouble falling asleep.

In order to make sure that any differences in time taken to fall asleep can only be attributed to the level of stress, the researcher must find a way to control all of the other factors that could affect the time it takes to fall asleep.

One way of doing that is by turning all of those other factors into constants. To do this, the research could select participants that have the same characteristics such as:

- No part time job
- Studying 4 year 12 subjects
- 50% male, 50% female
- Living in the same town
- All with good health and fitness levels
- All participants must record data in the same week

Even then there may be other variables that interfere with the data. These are called **extraneous variables.**

In an ideal research scenario, the researcher *plans* to eliminate as many extraneous variables as possible, by *planning* to keep as many variables as constant as possible. An **extraneous variable**, by definition, is any variable other than the IV that could cause an unwanted or unplanned change in the DV.

Extraneous variables interfere with the **causal link** between the IV and DV and make it difficult to determine whether the IV (in Mitchell's case the levels of stress) affect the DV (time taken to fall asleep). Due to this unwanted effect of EVs, the researcher needs to take this into consideration in the planning stage (in SACE Psychology this is the Deconstruction and Design phase of your investigation). There are a number of different types of extraneous variables.

PARTICIPANT VARIABLES

One of the main ways to eliminate extraneous variables is to ensure that participants are as similar to one another in a range of characteristics. Participant variables include biological sex, intelligence, personality characteristics, motivation, emotional state, cultural background and so on.

Each of these variables, and many other specific participant variables, can affect the way participants respond in an experiment. Experimenters need to try and take the relevant participant variables into account when they design their experiment.

Researchers attempt to control the impact of participant variables by ensuring, as far as possible, that participants in different groups of the experiment are as similar as possible in important personality characteristics and abilities that may influence the results of the experiment. The use of *random assignment* helps researchers to achieve this.

PLACEBO EFFECT

The **placebo effect** is an example of a participant variable and refers to an improvement in health

or wellbeing due to an individual's belief that the treatment given to them will be effective. In psychology, the placebo effect occurs whenever a participant's response is influenced by their expectation of what to do or how to think or feel, rather than by the specific procedure which is used to produce that response.

EXPERIMENTER EFFECTS

Personal characteristics of the experimenter and their behaviour during the experiment may unintentionally affect the way in which the research participants respond. Factors such as the experimenter being tired, in a bad mood, unwell or bringing bias to the way instructions are provided to different groups of participants are examples of experimenter effects.

DEMAND CHARACTERISTICS

Occasionally participants behave in a socially desirable way in attempt to live up to the experimenters expectations and in attempt to support the hypothesis, otherwise known as the good-participant role.

The negative-participant role is where the participant attempts to discern the experimenter's hypotheses, but only to destroy the credibility of the study.

SITUATIONAL VARIABLES

There can also be differences in how participants react in the experimental environment. All participants in the different groups of the experiment must be tested under the same conditions and in the same situation in order for the experimenter to more confidently conclude that any change in the DV is as a direct result of the IV. It is therefore important to *standardise* each test and its procedures so that the test and all test conditions are the same each time the test is administered, including the way the instructions are given.

Figure 6.2.2: When trying to investigate the effect of cramming versus systematic study in preparation for an exam, it is important to ensure that participants are similar in other characteristics such as age, time spent in class, the way instructions are given for each student, and the time of day the exam is sat.

CONFOUNDING VARIABLES

If extraneous variables are not controlled, and they do have an effect on the DV, they become **confounding variables**. This means that an EV, not the IV caused a change in the results.

Population and sample

Experimentation is the most widely used research design for learning about thoughts, feelings and behaviour. The people used in psychological research are called *participants*. It is impossible, impractical, and too costly to conduct research with *all* members of a population. Students often confuse the term population in a research scenario, with the whole population of Australia, or the whole population of the world.

POPULATION

In research, the **population** is the entire group of people belonging to a particular category that you are interested in researching. For example: teenagers, pregnant women, smokers, university students, AFL players.

In research terms, it is the larger group of people that we are interested in researching about, from which a **sample** is drawn.

CHECKING FOR UNDERSTANDING DECONSTRUCT AND DESIGN PHASE

Taking constant and extraneous variables into consideration

Identify constant and extraneous variables in each of the scenarios below

Deconstruct: Identify Constant Variables

Deconstruct: Identify Experimenter Effects

Mr Reid wants to research the effect of high school students eating breakfast on their ability to concentrate in class. He tests his home group students with an IQ test at school each day for a week.

Deconstruct: Identify Participant Variables

Deconstruct: Identify Situational Variables

Design: How might you control these extraneous variables?

Deconstruct: Identify Constant Variables

Deconstruct: Identify Experimenter Effects

Dr O'Grady wants to investigate the effect of alcohol on driving. She uses a driving simulator to count the number of errors made after providing standard drinks to volunteer University students.

Deconstruct: Identify Participant Variables

Deconstruct: Identify Situational Variables

Design: How might you control these extraneous variables?

Deconstruct: Identify Constant Variables

Deconstruct: Identify Experimenter Effects

A psychologist wants to find out whether gender plays a role in the memory of teenagers. He shows a series of memory related tasks to different groups of boys and girls throughout a school day and compares the performance of the scores from the tests.

Deconstruct: Identify Participant Variables

Deconstruct: Identify SituationalVariables

Design: How might you control these extraneous variables?

For example, if you were interested in researching about the number of injuries in AFL players in Australia, the population is all AFL players registered to play this year.

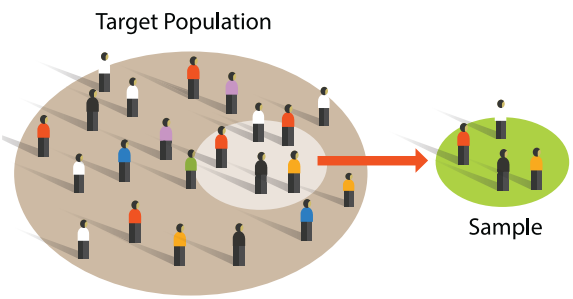


Figure 6.2.3: A sample is drawn from the larger population.

SAMPLE

The group of participants who are selected and participate in the research are called the **sample.**

It is important that the sample of participants most closely matches the population and minimises any participant extraneous variables. This way the researcher can be confident that the sample accurately represents the whole population, and therefore any conclusions drawn from the sample, can be generalised (or applied) to the whole population.

Consider gathering research on students in your high school. The population is all students from years 7 – 12 at your school. If, however, when you are selecting your sample, you just use the students in your year 12 maths class, this does not adequately or accurately represent the population, as the sample does not contain students in years 7 – 11 and may also contain gender bias depending on how many males and females are studying year 12 maths.

It is very important to carefully design and select a sample to represent the population, as conclusions will be drawn from the sample, and applied to the population at the conclusion of the research. It is important that the sample is **representative** of the population.

Types of sampling

CONVENIENCE SAMPLING

As the name implies, this is likely to be the type of sampling used by students and teachers at high school, as it is quick and convenient. It involves selecting the sample from a group of people that the research has access to. In a high school setting, the teacher has access to students in their own school. It would take a lot more time, effort, communication and persistence to gather a sample of high school students randomly from across South Australia for the purposes of research.

The main advantage of this technique is that it is convenient, however this sampling technique may contain a range of bias, in the form of participant variables, as the students all live in the same geographic area, all go to the same school, have the same teachers. This sample therefore does not represent the population accurately.

RANDOM SAMPLING

Researchers prefer to use random sampling wherever possible as it is a more systematic and carefully planned process for selecting the research sample. With random sampling, every member of the population has an equal chance of being selected in the sample.

The most common ways random selection occurs, is pulling names out of a hat, using names of

Figure 6.2.4: Random sampling includes selecting names at random like a lottery.

participants from a list of the population (for example from the electoral role, or from the student list of a school, AFL club). Alternatively members of the population are given a number to represent them, and then random numbers are selected to be in the sample.

The main advantage of using this process is that it is quick, and easy to use if the names of the population are known, and is not biased. However, by chance, the sample may still not be completely random, as it may accidentally select an uneven number of males and females for example.

STRATIFIED SAMPLING

Similar to random sampling, **stratified sampling** breaks the population down into smaller groups, and random samples are taken from the smaller groups in the same proportion as they appear in the population. If you wanted a sample from your school, you would select your sample of males and females, different cultural groups, and year levels in the same proportion as the population. If there are less year 12s, than year 7s in the school, then the sample would also have less year 12s than year 7s. The greatest advantage is that samples selected using this method are the most representative of the population, therefore eliminating participant extraneous variables.

CHECKING FOR UNDERSTANDING DECONSTRUCT AND DESIGN PHASE

Identify a population, sample and sampling technique

Identify an appropriate sample that might be used to conduct the following research topics, a population from which the sample may be drawn, and the type of sampling procedure the researcher might use.

Research Topic	Population	Sample	Type of Sampling
Does using social media after 10pm impact teenagers' ability to fall asleep?	High school students in metropolitan Adelaide	2000 Students enrolled in SA high schools in metropolitan Adelaide	Random Sampling using Department for Education database
Does using social media after 10pm impact teenagers' ability to fall asleep?	High School students at my current school	50 students from year 7 – 12, equal male and female	Convenience sample and Stratified sample using enrolment data at my school
Does watching violent computer games increase the likelihood of road rage?			
Does a red sports uniform increase the likelihood of winning a match?			
Does having a pet increase wellbeing for people who are retired from work?			
What age should children stop having a daytime nap before starting school?			
Where should you hold your school formal this year?			

SIS 3 INVESTIGATION DESIGNS

Investigations in Psychology can be experimental, observational, or qualitative. In experimental investigations, the investigator examines behaviour by manipulating the independent variable. In observational investigations, the investigator collects data in a natural setting by means of behavioural observations or self-report methods.

Qualitative investigations may use focus groups and the Delphi technique to generate data.

- Identify an investigation as experimental, observational, or qualitative.
- Discuss advantages and disadvantages of each type of investigation.

Many investigations involve the collaborative efforts of a team.

- Negotiate the role of each member with the other members of a team.

2022 Subject Outline | Stage 2

Experimental Designs

INDEPENDENT GROUPS DESIGN

One common design involves allocating participants to two types of groups – an **experimental group** (which is exposed to the IV) and a **control group** (which does not experience the IV). For example, if testing the effectiveness of a new teaching methodology a teacher who has 2 classes may use the new technique with one class (the experimental group) and not use the teaching technique with the other class (the control group).

The **control group** creates baseline data to compare the impact of the IV on the DV. This allows the teacher to compare the effect of the teaching technique to see which class understood the topic better.

To minimise bias in the two groups, however, the researcher should consider how they allocate participants to the two groups, rather than using the two groups which already exist. In an experimental design the best way to make sure that each participant has an equal chance of being allocated to either group is via **random allocation** (also called **random assignment**).

Random allocation can be achieved by allocating ID numbers or names using a computer program, simply flipping a coin, drawing names out of a hat, or any system which creates a equal chance of each participant being in either group

If the sample is large enough, the researcher can be confident that each group will contain about equal numbers of most participant variables that can affect the results. Random allocation is different from *random sampling*. Random allocation is used to *place* participants in groups, whereas random sampling is one of the methods that can be used to *select* participants for an experiment.

In the Stanford Prison experiment participants were allocated to the role of prisoner or guard based on their interview during the selection process. Discuss whether this is an example of random allocation or not. See this research in context in Topic 4.1 (page 253).

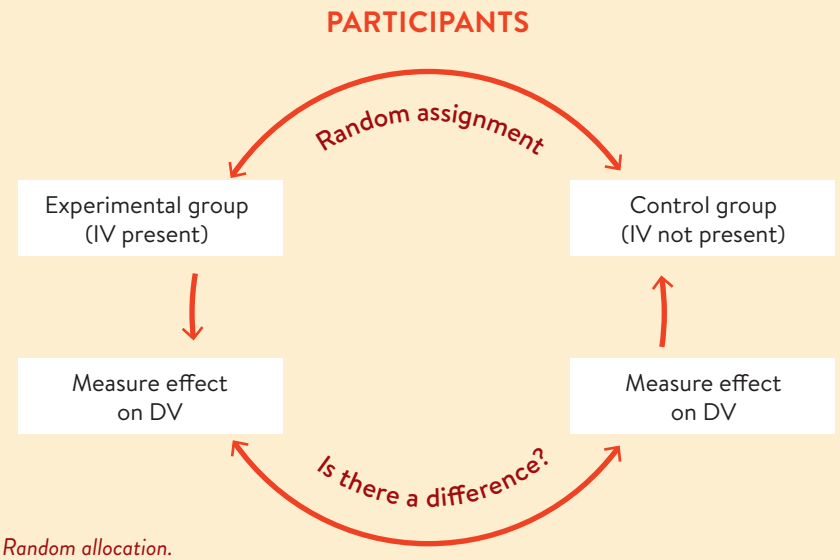


Figure 6.3.1: Random allocation.

Twin Studies

One way to eliminate participant extraneous variables as a potential confounding variable is to use participants as similar to each other as possible. Twin studies, especially with identical twins are often used in psychological research, particularly on the topic of nature v nurture.

To counter the **placebo effect,** because participant expectations can influence the results of an experiment, it is important that participants do not know whether they are in an experimental or control group. To enable this, the experimenter can use a single-blind procedure so that participants are not aware of (are 'blind' to) the condition of the experiment to which they have been assigned.

MATCHED PARTICIPANTS DESIGN

The matched participants design seeks to eliminate differences between the participants by allocating participants with similar characteristics to each group.

For example, if a researcher was interested in the effects of a new phone app aimed at increasing memory in elderly people, the participants might be required to complete a memory test as part of the pre-testing for the experiment. The researcher would match the people with the highest scores, then randomly allocate one to each of Group A and Group B. They would then match the next 2 people with the highest scores, and randomly allocate them to Group A and Group B. This design is less random in one sense, but more deliberate in ensuring the experimental and control groups are as similar as possible.

The advantage of this design aims to minimise the extraneous variable that may arise from participant variables, for example random allocation may accidentally place all the people with better memory in Group A. The limitation is the time and effort taken to pre-test and pre-survey participants to identify key characteristics that would require dividing into the two groups, and whilst it does seek to minimise participant variables, if one person withdraws from the research, then the matching participant must also withdraw from the research, or the groups will be unbalanced.

Bandura's Bobo Doll studies matched the children on aggression, from scores provided by the nursery teachers. This helped ensure that one of the conditions (say, the aggressive male model) didn›t show the results it did because it just happened to have all the most aggressive children in it. See this research in context in Topic 5: Learning page 394.

REPEATED MEASURES DESIGN

A repeated measures design uses only one group of participants who are exposed to different experimental conditions. This experimental design has the advantage of the participants being identical in characteristics and abilities between the two experimental conditions, eliminating participant variables as an EV.

Watson & Rayner (1920) is a good example of a repeated measures design: Little Albert experienced both conditions, before and after the classical conditioning procedures.
Because Albert was content to be around the white rat before the conditioning, we can be pretty sure it was the conditioning that caused him to start behaving in a fearful way. There are no participant variables at work.
See this research in context in this Learning Topic 5.1 on page 338.

This design may or may not contain a control condition but may have several **experimental conditions** in which the same participants are exposed to the different variables. For example, when looking at the effect of caffeine on concentration, a researcher may create several conditions for the same group of participants – exposure to 0mg, 2mg, 5mg, 10mg of caffeine. This does not require allocation to different groups.

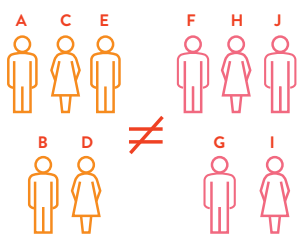
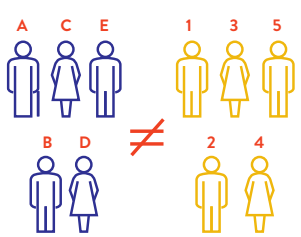
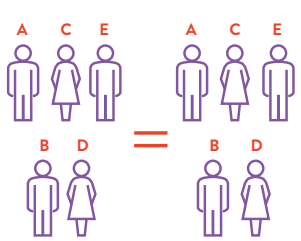
The Milgram experiment was carried out many times whereby Milgram (1965) varied the basic procedure (changed the IV). By doing this Milgram could identify which factors affected obedience (the DV).
Obedience was measured by how many participants shocked to the maximum 450 volts (65% in the original study). In total 636 participants have been tested in 18 different variation studies. See this research in context in Topic 4: Social Influence page 247.

One disadvantage of a repeated measures design is the creation of order effects. Consider the implications for the Caffeine experiment above if increasing amounts of caffeine are given to participants one after the other. The build-up of caffeine may become an extraneous variable if the research was conducted all on one day. This can be eliminated by counterbalancing. The researcher would divide the participants in half and have them complete the different experimental conditions in a different order.

Longitudinal study. One variation of the repeated measures design is a longitudinal study, where the same tests are repeated over a number of weeks, months or even years. Repeating similar tests over a long period of time however may affect results as participants "learn" the test and get used to being tested.

CHECKING FOR UNDERSTANDING
DECONSTRUCT AND DESIGN PHASE
Advantages and Disadvantages of Experimental Designs

Complete the table by comparing the different experimental designs

	Explanation	Advantages	Disadvantages
Independent groups design 			
Matched participants design 			
Repeated measures design 			

Deconstruct: Consider how you could use each of the experimental investigations to conduct this research
Design: Which one would be most effective for you to use

You would like to investigate whether teenagers will sleep for longer on weeknights if they participate in physical activity, or study for 3 hours after a full day at school.

Deconstruct: How could I use an independent groups design?

Deconstruct: How could I use a repeated measures design?

Deconstruct: How could I use a matched participants design?

Design: Decide which of the above three experimental designs would be most appropriate, justify why you chose this design, and explain the advantages and disadvantages.

Observational Designs

There are some research designs where the groups of participants are obvious, or the groups are pre-existing, examples include comparing groups of people based on gender, age, smoking habits, location, workplace, or any other variable that already exists.

In research topics where it is unethical to deliberately expose a group of people to an independent variable, for example when researching the effect of using illicit drugs during pregnancy, or the impact of sleep deprivation on year 12 students completing an exam, an observational design makes it possible to continue this research, but without experimenting.

The key to identifying a research design as observational or experimental, is whether the **IV** (independent variable) is manipulated by the researcher or not. In an observational design, the researcher **does not** manipulate the IV.

The greatest advantage of an observational design is that topics that are unethical, too costly, impractical, impossible to experiment on are able to be researched, as people who take drugs, children who watch violent video games, people who commit murder, and parents who smack their children all exist, we just have to find them, and seek permission to gather data from them. Deliberately asking parents to smack their children for the purpose of research, is not OK, and would not pass an ethics committee in order to conduct experimental research in this field.

The disadvantage of observational designs is the lack of control in planning, hence the inability to create **constant variables** is a limitation. This limits **causation** (cause and effect link) and the ability to confidently conclude that a change in the IV *caused* a change in the DV. This is as a result of the inability to randomly allocate people to groups, as the groups (smokers and non-smokers) already exist.

Instead, researchers can conclude that there is a positive or negative relationship between the variables. This is known as **correlation**.

Examples of Observational Designs

NATURALISTIC OBSERVATION

A **naturalistic observation** involves observing and recording variables of interest in a natural setting without interference or manipulation. For example, a researcher interested in aspects of social influence in a classroom such as conformity to behaving as others do, obedience to the teacher, or attitudes to learning, might use naturalistic observation as part of their research.

This design is well-suited to studies where researchers want to see how variables behave in their natural setting or state. In some cases, it might be the only method available to researchers; for example, if lab experimentation would be precluded by access, resources, or ethics. It might be preferable to not being able to conduct research at all, but the method can be costly and usually takes a lot of time.

Naturalistic observation presents several challenges for researchers. It does not allow them to control or influence the variables in any way nor can they change any possible external variables. It also does not mean that researchers will get reliable data from watching the variables, or that the information they gather will be free from bias.

For example, participants might act differently if they know that they are being watched. The researchers might not be aware that the behaviour that they are observing is not necessarily the subject's natural state (i.e., how they would act if they did not know they were being watched).

Researchers also need to be aware of their biases, which can affect the observation and interpretation of a subject's behaviour.

CORRELATIONAL STUDIES

While correlational research can demonstrate a relationship between variables, it cannot prove that changing one variable will change another. In other words, **correlational studies** cannot prove cause-and-effect relationships.

A researcher could have participants come to a laboratory to complete a complex cognitive task and a hypothetical risky decision-making task and then assess the relationship between participants' scores on the two tasks.

Or a researcher could go to a shopping mall to ask people about their attitudes toward the environment and their shopping habits and then assess the relationship between these two variables. Both studies would be correlational because no independent variable is manipulated, but two variables are being compared against each other.

HELPFUL ONLINE RESOURCES

Watch this video to understand more about correlational studies:
https://tinyurl.com/cdw8cxnm

LONGITUDINAL DESIGN

A **longitudinal design** is another example of an observational design and uses the repeated measures principle in that the research is repeated with the same people. Instead of the research being completed in a short space of time, they occur over a longer time interval, often over several years, or even decades.

Figure 6.3.2: A longitudinal study follows the same person, or group of people over a period of time to measure changes.

For example, imagine that a group of researchers is interested in studying how exercise during middle age might impact cognitive health as people age. The researchers hypothesise that people who are more physically fit in their 40s and 50s will be less likely to experience cognitive declines in their 70s and 80s.

The researchers recruit a group of participants who are in their mid-40s to early 50s. They collect data related to how physically fit the participants are, how often they work out, and how well they do on cognitive performance tests. Periodically over the course of the study, the researchers collect the same types of data from the participants to track activity levels and mental performance.

The advantages of a longitudinal study are that there is less bias from participant variables, as the participants remain the same, and direct changes in the participant can be observed. They are however time consuming, expensive, and participants may drop out over the months, or years that the study is conducted.

CROSS-SECTIONAL STUDIES

In research designs where the independent variable is age, a **cross-sectional study** may be used. Researchers are often interested in researching across a wide range of age groups. Cross-sectional studies are observational in nature and are not causal or relational, meaning that you can't use them to determine the cause of something.

Researchers studying developmental psychology, for example the impact of age on memory, might select groups of people who are different ages but investigate them at one point in time. By doing this, any differences between the age groups can presumably be attributed to age differences.

Because the data are collected at a single point in time this means that results can be obtained immediately after collecting the data. It is not a lengthy, expensive, or time-consuming process to gather data from a wide range of age groups. As the data is collected straight away, there is less likelihood participants will withdraw from the research. This method has disadvantages related to participant and situational variables which may confound results.

Researchers working for a phone company might use a cross sectional study to find out the attitudes of phone users towards potential features they would like to see in the next model.

Figure 6.3.4: Cross-sectional designs are used when the independent variable is age.

If the results show that older women would not buy a new phone because it is bulky, the mobile phone company can tweak the design to make it less bulky. They can also develop and market a smaller phone to appeal to a more inclusive group of older women.

SEQUENTIAL DESIGNS

Sequential designs include elements of both longitudinal and cross-sectional research designs. Similar to longitudinal designs, sequential research features participants who are followed over time; similar to cross-sectional designs, sequential research includes participants of different ages.

This research design is also distinct from those that have been discussed previously in that individuals of different ages are enrolled into a study at various points in time to examine age-related changes, development within the same individuals as they age, and to account for the possibility of cohort and/or time of measurement effects

HELPFUL ONLINE RESOURCES

For more information about these designs, which are typically used in developmental psychology field visit: https://tinyurl.com/hy8xfxdf

CHECKING FOR UNDERSTANDING
DECONSTRUCT AND DESIGN AN EXPERIMENTAL INVESTIGATION

Observational designs have sometimes been used in the study of social influence, where the investigator collects data by observation of selected participants. Observational designs are revisited in the Topic 4.2 on page 272. Refer to Topic 4.2 to study observational designs in the context of research on social influence.

Advantages and Disadvantages of Observational Designs

Summarise the main difference between experimental and observational research in their design.

As a result of this difference, explain the main advantage and disadvantage of using an observational design.

Identify, then justify the use of an appropriate research design for each of the scenarios below. You may select from any experimental or observational design you have investigated.

Jerome is investigating the effectiveness of the "door-in-the-face" strategy of selling a charity calendar to shoppers in the mall. He goes to his local shopping centre with two of his colleagues and observes from a distance for an hour, noting down which sales strategies are most successful.

Kelly is interested in the effectiveness over time of persuasive messages delivered by social media. She gains the permission of 50 participants to receive a series of advertisements via social media for a period of a year. During this year, participants are sent a range of advertisements, one of which is delivered consistently about the health and humanitarian benefits of becoming a vegetarian. Once a month throughout the study, Kelly has participants complete a survey measuring attitudes and behaviours towards various topics, including eating vegetarian.

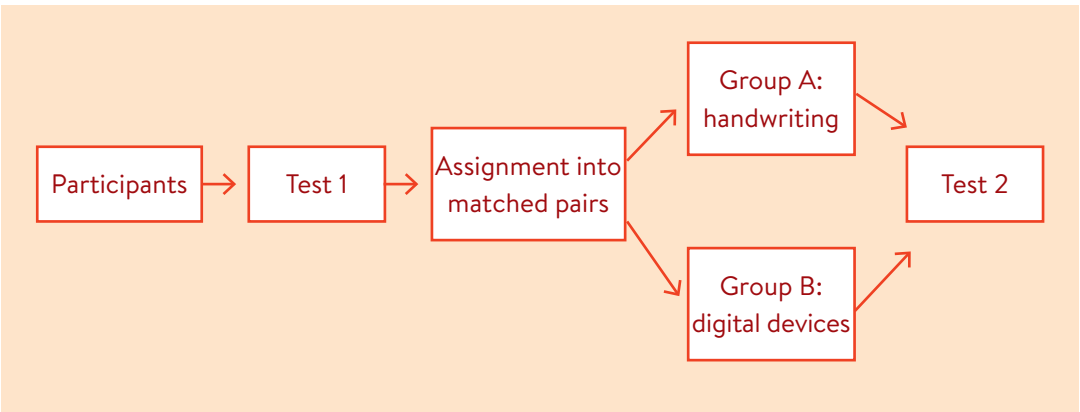
A team of psychologists is investigating the bidirectional relationship between behaviour and attitudes, and hypotheses that deleting Social Media apps for a period of 2 weeks will have an affect on attitudes towards social media use.

Thirty participants with an interest in purchasing an investment property were selected to take part in an investigation. The aim was to determine whether a central or peripheral route of persuasion was more effective in persuading people to invest with this company. Participants were randomly divided into two groups.
Participants in Group A attended a seminar that talked about facts, statistics, financial advantages of investing in property and provided participants with a 20-page handbook to read once they left the seminar.
Participants in Group B attended a seminar that showed them lots of beautiful video footage about holiday destinations with the persuasive message centring around the benefits of investing being able to holiday in not only your own investment property, but others around the world.
Two weeks later, participants were followed up and asked whether they were ready to commit to the investment.

An educational psychologist was interested in investigating the impact of handwriting versus using digital devices on literacy achievement in Middle School students. Forty students in an after school tutoring program were given parental permission to participate in a 4-week program

All students in the research completed a literacy test (Test 1). Based on the similarity of their literacy test results, the students were placed into ten matched pairs. Each participant in a pair then had an equal chance of being assigned to Group A (handwriting) or Group B (digital devices). Participants in the handwriting group were not able to use digital devices in their after school tutoring program for 4 weeks, and were required to complete all work handwritten. Participants in the digital devices group were required to only use their laptops and were not allowed to write notes on paper for the 4 week period of the trial. After the 4 weeks, all participants completed a second literacy test (Test 2).

A flow chart of the procedure is shown below.



Justify why this investigation is an experimental design. In your response identify the IV, DV and explain why the researcher placed the participants into matched pairs.

Qualitative Designs

An interest in qualitative research came about as the result of the dissatisfaction of some psychologists like Carl Rogers with the scientific study of psychologists such as the behaviorists like B.F. Skinner. Since psychologists study people, the traditional approach to science is not seen as an appropriate way of carrying out all research, since it fails to capture the rich verbal narrative of people's thoughts, feelings and reasons for their behaviour in real world contexts.

Research following a qualitative approach is exploratory ad seeks to explain 'how' and 'why' a particular phenomenon, or behaviour occurs in a particular context.

Qualitative research serves a very important purpose and is often conducted before other experimental or observational research commences. Qualitative research can help generate new and interesting research questions and hypotheses for future research using more scientific research designs.

There are different types of qualitative research designs including interviews, focus groups and the Delphi technique.

FOCUS GROUPS

The term **focus group** is used to refer to a group interview technique that obtains data through discussion between research participants in a group setting. An important feature of the focus group method is the use of group interaction. Participants (typically between 6-8) are encouraged to talk to one another, ask questions, exchange personal experiences and points of view and comment on each other's experiences and opinions.

To promote group discussion, the researcher (called a 'facilitator') uses free response (open-ended) questions and encourages research participants to discuss issues of importance to them in relation to the research topic, and even to generate questions for discussion with the rest of the group.

A skilled facilitator's job is to control the group discussion quietly or unobtrusively. The discussion will inevitably move into areas that are not relevant to the topic and the facilitator's job is to subtly bring the discussion back on track.

A good facilitator:

- has a genuine interest in people and shows respect for other people's views,
- ensures all participants get the opportunity to contribute significantly to the discussion,
- prevents a few people from dominating the conversation,
- is curious about the topic and the participants,
- moderates, does not participate,
- allows people to share views and is prepared to hear unpleasant views,
- never belittles or makes fun of other people's views,
- always thanks their participants (even if they disagree with them).

A note taker is allocated to each focus group and should devote their time to taking notes and capturing the important aspects of the discussion. This procedure consists mainly of trying to capture direct quotes that people make, as well as key points and/or key phrases. Ensure that the notes include:

- key points in the discussion,
- notable quotes,
- observations such as silent agreement, obvious body language, and indicators of group mood. Ironic or contradictory statements can also be noted as these observations can provide insight into the nature of the discussion.

The main advantage of focus groups is:

- The richness of the qualitative data that can be generated - people are uninhibited and are not limited by a Yes/No response or rating scale where they cannot elaborate on a response.

Figure 6.3.5: A focus group involves people meeting face to face or online to discuss an issue and gather qualitative data.

- The groups are generally easy to organise and sessions are relatively inexpensive to conduct.
- Focus groups are also useful for collecting information from people who have difficulty reading or writing, or have other communication difficulties.
- 'safety in numbers' factor may also be an advantage within a group situation. It can encourage the participation of those who may normally be uncomfortable or anxious about revealing information about themselves to an interviewer in a one-to-one interview.
- Participants can bounce ideas off each other, and be inspired, or jog their memory when one person talks. This information may not have been elicited in a one-to-one interview.
- Technology has enhanced researcher's ability to conduct focus groups with people who are not physically in the same location.

The main disadvantage of focus groups is:
- Dominant participants – some people may not allow others to talk.
- Some participants may not feel comfortable expressing a particular response in front of others.
- The presence of other research participants does not enable the confidentiality of more conventional research settings.

DELPHI TECHNIQUE

This technique is useful to obtain information about a research question or problem from experts or a group of individuals, each of whom has individual expertise about a topic, but it is not possible to bring the participants together. Used for complex problem solving and the aim is to obtain a consensus of opinion in a group.

The **delphi technique** follows the following format:
- A series of questionnaires to be used to gather the opinion of a targeted group of people is sent to experts, and people of interest.
- A first questionnaire with open ended questions which allow for written qualitative responses is sent to participants.
- Subsequent questionnaires are sent once responses to the first questionnaire have been collated.
- Responses are collated by a panel of experts who identify categories and themes in the data, then this info is returned to the participants for further feedback.
- This process continues until consensus is reached or enough information has been gathered.

The delphi technique has practical advantages of
- enabling a small or large group of experts to be contacted cheaply, through the post or by e-mail.
- using a self-administered questionnaire (in hard copy or online), with few geographical limitations
- It seeks to maximise the benefits from having informed people consider a problem while minimising the disadvantages associated with group decision making in face-to-face meetings.

- The use of successive rounds of questions that include feedback on overall group responses helps ensure participants consider alternative views and options.
- Participants are less likely to be swayed by social desirability bias as they construct their answers in isolation.

However, the delphi technique has also been criticised

- The researcher may force consensus and the agreed upon opinion(s) may have been weakened by not allowing participants to discuss issues.

INTERVIEWS

Interviews in qualitative research can be unstructured—consisting of a small number of general questions or prompts that allow participants to talk about what is of interest to them—or structured, where there is a strict script that the interviewer does not deviate from. Most interviews are in between the two and are called semi-structured interviews, where the researcher has a few consistent questions and can follow up by asking more detailed questions about the topics that come up. Such interviews can be lengthy and detailed, but they are usually conducted with a relatively small sample.

The advantages of interviews are similar to those of Focus Groups, however, an additional advantage reported is that people may feel more comfortable talking in a one-to-one situation compared to a group interview. The researcher is able to tailor questions to elicit responses and ask the participant to expand on their previous responses. A related disadvantage of interviews is that the researcher may bring bias to their questioning, and not ask questions that encourage the participant to open up or be honest in their responses. In a structured interview the pre-set questions do not allow the research to deviate and explore other interesting or important information identified.

The disadvantages of experimental and observational designs are the relative strengths of qualitative research. The main difference between qualitative designs, and other designs is that they **only** collect **qualitative data**.

CHECKING FOR UNDERSTANDING
DECONSTRUCT AND DESIGN AN EXPERIMENTAL INVESTIGATION
Advantages and Disadvantages of Qualitative Designs

Summarise the similarities and differences between focus groups, the Delphi Technique and Interviews when gathering qualitative information in psychological research.

Similarities

..

Differences

..

Explain the main difference between qualitative and quantitative research designs

Selecting appropriate investigation designs for different purposes

For the following research topics, select an appropriate investigation design and justify your reason for this selection.

What is the most effective memory technique for studying for a high school exam?

What is the impact on mental health of long-term chronic pain?

Does upbringing have an impact on the likelihood of criminal behaviour?

Are rehabilitation programs for young offenders in juvenile prison effective in reducing rates of reoffending?

Do adults between the age of 30 and 50 have better memories than young people aged 18-29?

Children who wear school uniform correctly perform better at school.

A new antidepressant medication is effective in reducing symptoms of depression.

Is there a difference in university entrance success rates between private and public school students?

How important is the role of a coach in developing self confidence in a player?

The Effect of Positive Affirmations on Self-Esteem and Well-Being in College Students

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Introduction

- Spontaneous other- and self-affirmation have been associated with **greater levels of happiness, hopefulness, and more health benefits** (Emmanuel et al., 2018).
- Past research has shown that self-esteem can **be fostered through positive regard from others** (Rogers, 1951 as cited by Maxwell & Bachkirova, 2010).
- Well-being theorists believe that it is important to examine if people can **intentionally enhance their resiliency** by using happiness-enhancing strategies such as **affirmations** (Lyubomirsky & Della Porta, 2010 as cited by Howell, 2017).
- Delivering virtual messages through a mobile phone is **a widely accessible method in facilitating behavior changes** through the support and immediate feedback (Sharifi et al., 2013).

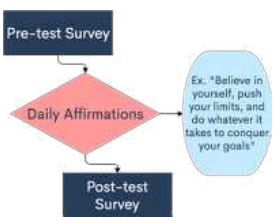
Method

This study had a sample of 38 students from a small liberal arts university in the Bay Area, 23 of which completed the study (21 females and 2 males aged 18-22 years old; mainly of Asian descent).

Participants were asked to complete an online survey consisting of the three measures listed below:

1. **Rosenberg Self-Esteem Scale** (Rosenberg, 1965) measuring positive and negative feelings about the self using a 4-point Likert scale.
2. **Flourishing Scale** (Diener & Biswas-Deiner, 2009) measuring self-perceived success in key areas of life using a 7-point Likert scale.
3. **Satisfaction with Life Scale** (Diener, Emmons, Larsen, & Griffin, 1985) measuring cognitive judgments of the self-perceived life satisfaction aspect of subjective well-being using a 7-point Likert scale.

For two weeks, participants in both conditions received affirmations twice daily between the hours of 10am and 10pm, then asked to take a post-test survey.



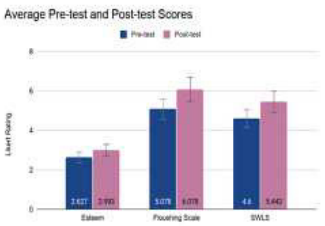
Hypotheses

Virtual affirmations will have a beneficial impact on college students' self-esteem and well-being.

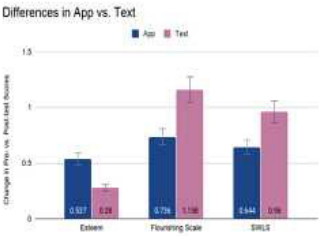
Affirmations given via text message will have a greater positive impact on self-esteem and well-being than affirmations given via mobile application.

Results

When comparing pre- and post-test scores, there were significant increases in: Esteem (**$t(23) = -4.447$, $p < 0.001$**), Flourishing (**$t(23) = -3.574$, $p < 0.005$**), and SWLS (**$t(23) = -3.759$, $p < 0.005$**).



When comparing score changes for each condition, there were no significant changes in: Esteem (**$t(22) = -1.511$, $p > 0.05$**), Flourishing (**$t(22) = 0.723$, $p > 0.05$**), and SWLS (**$t(22) = 0.674$, $p > 0.05$**).



Conclusions

Key findings

- Significant increases were found between pre-test and post-test scores for self-esteem, flourishing, and satisfaction with life.
- No significant differences were found between changes in scores of the text and mobile app conditions.
- One variable had greater change in one condition, while the other two had greater change in the other condition

Future directions

- Replicate this study with a different population
- Follow up after 4-6 weeks to see if these benefits last beyond the intervention

Implications

- Virtual positive affirmations have a statistically significant beneficial impact on reported self-esteem and well-being
- There are simple things people can do to better the lives of others

DEMONSTRATE INQUIRY SKILLS

Critique the investigation into positive affirmations on self-esteem with regard to research design and method.

Suggest an improvement to the method used in this investigation.

Use the conclusion of this investigation to propose a subsequent investigation that this research team might investigate in the future.

To view a digital copy of the research poster, go to:
https://tinyurl.com/hamjvvkc
The Effect of Positive Affirmations on Self-Esteem and Well-Being in College Students (dominican.edu)

SIS 4 DATA COLLECTION AND PRESENTATION

The researcher interprets raw data that may be objective or subjective, quantitative or qualitative.

- **Identify some advantages and disadvantages of using these types of data.**

Results of investigations are presented in a well-organised way to allow them to be readily interpreted.

- **Present results of investigations in appropriate ways, such as:**
  - **construction of appropriately labelled tables**
  - **drawing of appropriately labelled graphs**

2022 Subject Outline | Stage 2

Following through the steps in research design, once the researcher has identified whether they are using an experimental, observational or qualitative research design, the population has been determined, and the sample selected – the researcher is ready to start the research phase and gather data.

Data are the observable facts, or empirical evidence that psychologists, like other scientists collect as a result of conducting the research. Psychologists gather data from direct observation or some type of measurement tool. Data collected directly by the researcher through fieldwork, focus group, observation or experimentation is known as primary data. Data can also be sourced through journal, articles and other people's research. This type of data is known as secondary data.

Researchers use data as evidence to support their hypothesis or research question and use data to draw conclusions about their research.

Data collection

Data may be Quantitative, or Qualitative in nature, and may be objective or subjective.

QUANTITATIVE V QUALITATIVE DATA

Quantitative Data are represented by numbers and can be statistically analysed and presented in table, or graph format making interpretation of the results simpler for the end reader of the research. Quantitative data allow the researcher to draw conclusions quite easily, however also restrict participants from providing in depth reasoning, or elaboration on the thinking behind their responses.

Qualitative Data are often expressed in words, or sentences and describe the quality of behaviour. There is often a story, reasoning, justification, or background to a person's responses which provides the researcher with in depth detail about what a person thinks, feels or believes. Participants can be unrestricted in their responses, however are much more difficult to summarise or compare with other data.

OBJECTIVE V SUBJECTIVE DATA

Objective Data

Objective Data can be verified by other researchers, increasing the reliability and validity of the data. Objective data are typically **quantitative** which is in the form of numbers. Data collected in quantitative (numerical) format are easy to statistically analyse, are readily measured and compared with other similar numerical data. Quantitative data are able to be represented graphically.

Ways to collect objective data:

Behaviour count. Examples of behaviour counts use measurement tools such as a stopwatch, ruler, checklist, and measure things such as running speed, shoe size, height, the number of times a person touches their face, number of correct responses on a test, number of errors in a driving simulator. These behaviours can be measured by multiple researchers, and the results verified, therefore reducing any bias.

Physiological measures. Physiological measures are objective data as they are able to be measured and verified by more than one researcher, and they are quantitative in nature as they are able to be measured using a numerical measuring tool. Examples of physiological measures include heart-rate, blood pressure, brainwave activity during sleep on an EEG machine or galvanic skin response (which measures the conductivity of the skin).

Figure 6.4.1: The GSR (galvanic skin response) or polygraph is used to measure stress or fear, as our level of stress or fear is associated with an increase in heart rate and perspiration.

Reliability of quantitative measures:

It is common to assume that quantitative measures are 'fool proof' as the results can be verified, but they can be flawed because

- the tool is incorrectly calibrated
- the user is not trained in its operation
- external factors may have influenced the results.

Whilst objective data are easy to compare and is collected under controlled conditions, using a measurement tool, the reasoning behind the score due to external factors is not always obvious. For example, two people may get the same score on a multiple-choice test, however this objective data doesn't take into consideration factors such as stress levels, prior learning, practice, or any number of potentially extraneous variables.

SUBJECTIVE DATA

Ways to collect subjective data:

Observation. Observation occurs when a researcher observes another individual, or group of people in a natural environment and records observations about the behaviour they witness. This type of subjective data is also **quantitative**, as the observations are tallied, or recorded in numerical form.

Consider your teacher deciding to conduct research into year 12 students' attitudes to wearing school uniform. They may use an observation to gather data by observing the number of students wearing correct uniform, and not wearing correct uniform. This will collate numerical data, as they will have a number of students in each category which can be summarised statistically. For example, 15/25 students were wearing correct uniform, and 10/25 students were not in correct uniform. This data can be transformed and represented as 60% of students wear uniform, and 40% wearing incorrect uniform, Conclusions can therefore be drawn about attitudes at this school towards wearing correct uniform.

Figure 6.4.2: Directly observing a person is a subjective quantitative way to collect data.

Bandura used a one-way mirror and a video camera to observe children and their responses to, and ways of playing with a BoBo doll in his research on observational learning. See this research in context in Topic 5.3: Observational Learning page 394.

One of the limitations of using observation as a method for collecting data is that observations are subject to observer bias, whether the observer sees what they want to see, or hopes to see. Their interpretation in the above example of what the definition of correct uniform is, may be different to a different researcher. This bias can be overcome by using multiple observers of the same behaviours.

Self-reports. When participants complete a series of questions, such as via an online form, survey monkey, and they provide responses to questions that provide information about their own thoughts, feelings or behaviours, this is known as a self-report. Data from a self-report survey is **quantitative** in nature, as the data is collected in numerical form, and can be summarised.

There are many different forms of self-report data collection strategies, these may include a **survey** or **questionnaire.** Typically, participants respond to a series of verbal or written questions. These close-ended questions can be in the form of a **rating scale** (such as a **Likert scale** which requires you to rate whether you Strongly Agree, Agree, Neutral, Disagree, or Strongly Disagree with a provocation or statement).

Rating scales can be as simple as your teacher asking you how you are feeling today on a scale of 1-10. Because you are providing information about yourself, and you are guessing, or estimating how you are feeling today, this is a subjective response (the response comes from the subject themselves).

Figure 6.4.3: Anytime you complete an online survey, you are participating in the collection of subjective quantitative data, as you are providing information about your own thoughts, feelings or behaviours. If the responses require a written response, then the data is subjective qualitative.

The advantage of subjective data is that participants are able to provide greater insight into their own personal beliefs, feelings and ideas. These types of topics are unable to be measured with a tool such as a ruler, as the information only exists inside the participant's mind. The limitation of subjective data is that it is difficult to compare with other data and is subject to bias and interpretation. My interpretation of how I am feeling today on a scale of 1-10 may be very different to someone with a chronic illness.

Interviews. An interview is another way of collecting **subjective** data, however, instead of being quantitative like a rating scale, or questionnaire where responses can collate and summarise numerically, an interview generally involves collecting **qualitative data**, as the questions are more open-ended, and elicit more detailed and rich responses. Interviews may be structured and different participants are asked the same questions, or they may be more unstructured with the conversation being more flexible and open to change depending on the responses being given.

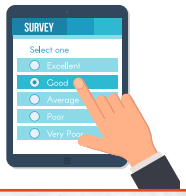
Interviews as a data research method are not very time efficient, and require a strategy for collecting the verbal responses, and summarising them, The greatest advantage is in the greater depth of detail that the participant is able to provide that they are not able to if given a rating scale, or yes / no response on a survey.

Figure 6.4.4: Talking 1:1 with a researcher enables them to collect subjective qualitative data.

CHECKING FOR UNDERSTANDING
DEMONSTRATE INQUIRY SKILLS BY IDENTIFYING DATA FROM DIFFERENT SOURCES
Advantages and Disadvantages of each type of data

Identify which type of data collection is being shown in the pictures below, and in each case identify whether this is qualitative or quantitative data, subjective or objective in nature, and explain one advantage and one disadvantage of each technique.

	Type of Data Collection	Qualitative or Quantitative	Subjective or Objective	Advantage	Disadvantage

	Type of Data Collection	Qualitative or Quantitative	Subjective or Objective	Advantage	Disadvantage
					

Data presentation

The next step in the scientific research method after data has been collected by the researcher is to sort and summarise the data in preparation for analysis.

VISUAL REPRESENTATIONS OF QUANTITATIVE DATA

SORTING DATA

An easy way to organise data is through a **frequency distribution table**.

The raw data is summarised into groups or categories. Consider the following raw data which represents the number of hours slept in a week by 25 participants in a sleep study.

Listened to white noise while sleeping

27.75, 39.75, 42, 47, 47, 50, 50, 50.35, 50.75, 51.5, 53.5, 53.5, 54.25, 55.75, 57, 57.75, 58.25, 58.55, 60.5, 60.5

Did not listen to white noise while sleeping

41.24, 41.75, 45.75, 47.5, 48.25, 50.5, 51.25, 52.25, 52.25, 55.25, 58, 58, 59.75, 60.75, 69

Table 6.4.1: Raw Data, hours of sleep per week.

Hours of sleep / week	Number of participants White Noise	Number of participants No White Noise
20.1 - 30	1	0
30.1 - 40	1	0
40.1 – 50	5	5
50.1 - 60	11	8
60.1 +	2	2
Total #n	**20**	**15**

Table 6.4.2: Frequency Distribution Table of number of participants and hours slept per week.

Presenting statistics – statistics such as mean, median, mode, percentages and standard deviation may be calculated to summarise the data – refer to Descriptive statistics in the next section. Statistics may also be presented in a table.

Significant figures – data should be presented to two significant figures.

	Mean hours of sleep
Listened to white noise	54.45
Did not listen to white noise	53.59
Difference in mean scores	.86

Table 6.4.3: presenting a summary of mean scores and the difference between them.

GRAPHING DATA

A graph enables data to be presented visually, and allows researchers, and the end users of the research to be able to quickly and easily see the difference between the variables in order to draw conclusions that relate to the hypothesis.

HISTOGRAM

A histogram is used when there is a continuous interval, such as hours of sleep, shoe size, height or weight. A histogram has each of its bars touching to represent that the data is continuous.

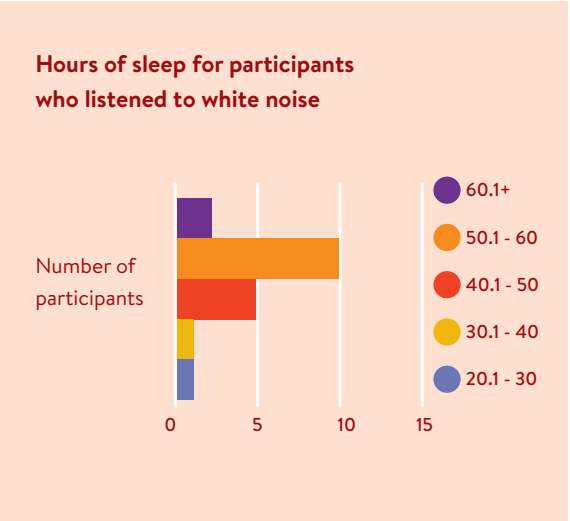
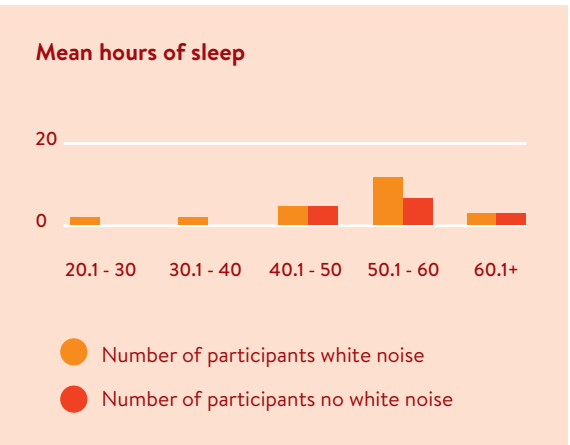


Figure 6.4.5: A histogram displays data on a continuum.

BAR GRAPHS / COLUMN GRAPHS

These graphs are appropriate for comparing different experimental groups and are also useful if the independent variable is not numerical.

Figure 6.4.6: Bar graphs are presented horizontally as per Figure 6.4.5 above. Column graphs are presented vertically as per below.



Difference between bar graphs and histograms

Basis for comparison	Histogram	Bar Graph
Meaning	Histogram refers to a graphical representation, that displays data by way of bars to show the frequency of numerical data	Bar graph is a pictorial representation of data that uses bars to compare different categories of data
Indicates	Distribution of non-discrete variables	Comparison of discrete variables
Presents	Quantitative data	Categorical data
Spaces	Bars touch each other, hence there are no spaces between bars	Bars do not touch each other, hence there are spaces between bars
Elements	Elements are grouped together, so that they are considered ranges	Elements are taken as individual entities

LINE GRAPHS

show the relationship between the independent and dependent variables when both are numerical and when the dependent variable is a function of the independent variable.

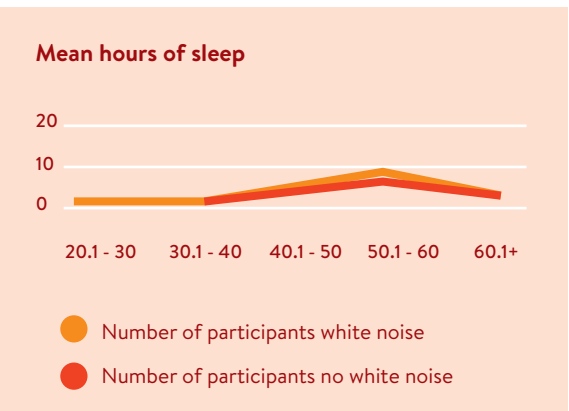


Figure 6.4.7: A line graph connects data points and is most useful when the data is sorted from smallest to largest.

PIE CHART

A pie chart shows the data as a proportion of the total data. In this case, the % of hours of sleep for each subgroup in comparison to the total. This graph makes it clear that the majority of people slept between 50.1-60 hours per night.

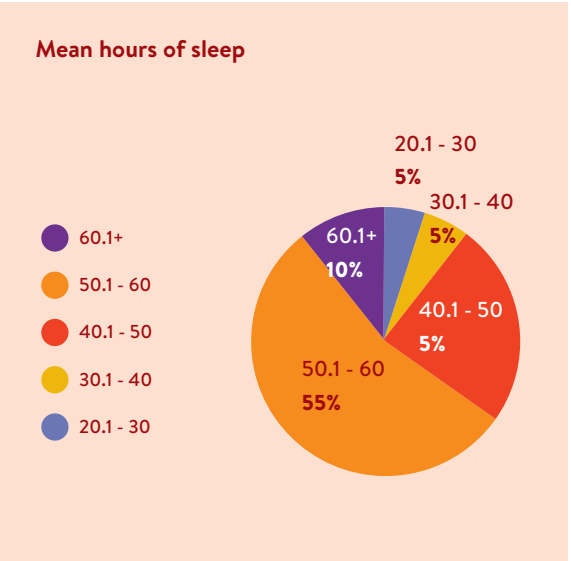
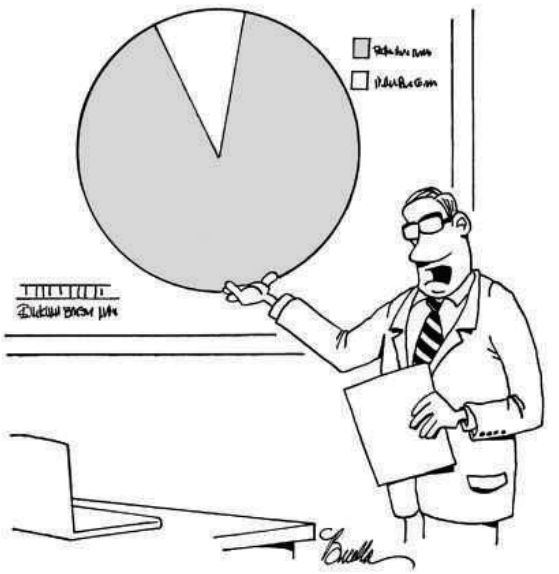


Figure 6.4.9.: A pie graph is useful for showing data as a percentage of the whole.



"...and this chart shows people clearly prefer bar graphs over pie charts."

CHECK LIST FOR GRAPHING

1. Select the appropriate graph type (clarify if a bar, column, histogram or line graph is more appropriate and why).
2. Use a descriptive title for each graph.
3. **Label** the axes correctly and specify the units of measurement (ensuring that the units are maintained using the original measure. For example, if heart rate is recorded in BPM using whole numbers, then whole numbers should be graphed and not decimal places)
4. Place the independent variable on the x-axis and the dependent variable on the y-axis.
5. Use the correct scale (the appropriate min and max values on the axes according to the data collected).
6. Plot data correctly and clearly.

SCATTER PLOTS

A scatter plot shows how two separately measured variables relate to one another, or how strongly correlated they are. A trend line indicates the direction and strength of the correlation.

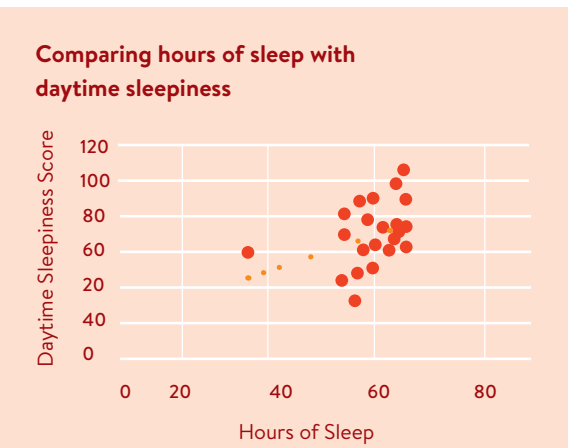


Figure 6.4.10: A scatter plot is used to show a correlation between two related variables.

Visual representations of Qualitative data

CONTENT ANALYSIS

Content analysis is used to organise qualitative data into themes.

Content analysis of responses in focus groups

Researchers follow the following steps to organise the data gathered from focus groups.

1. *Organise the data* become familiar with the data, read and re-read.
2. *Identify core themes* identify groups of comments that are similar.
3. *Code themes* – develop a name that identifies each theme.
4. *Keep track of themes* – note themes that are recurring and whether they were the first comment made or in response to another comment, look at agreements, disagreements, contradictions, different ways of saying the same things.
5. *Analysis* – summarise the analysis using a frequency table with illustrative quotes

Themes	Frequency of themes	Examples from participants
Emotions when tired	6 4 3	Grumpy Angry moody
Behaviours	3 4	Lack of concentration Sleep
Times when tired	3 2 2 1	Morning Lunch time After lunch 5 pm

CHECKING FOR UNDERSTANDING
IDENTIFYING DATA FROM DIFFERENT SOURCES

A psychologist conducted an investigation into the effect of listening to music on school children's performance on concentration tests. He goes to his local high school and surveys 20 year 10 students. He divides the students into two groups, where one group listens to music while they complete a basic concentration test, and the control group do not listen to music.

The concentration test required participants to memorise a list of ten words and then tests the number they could remember after a period of time. The experimental group listened to music while both completing both the memory task and the test.

The psychologist gained the following results for the concentration test. The maximum score is 10 and the minimum is 0. The higher the score the greater the concentration.

Group A: Did listen to music	Group B: Did not listen to music
8, 6, 5, 6, 7, 8, 5, 6, 7, 9	5, 4, 6, 7, 5, 3, 5, 3, 5, 3

Complete the frequency distribution table to organise the data.

Concentration Score	Group A: Did listen to music	Group B: Did not listen to music

The average heart rates for the two groups are shown in the table.

Condition	Average Concentration Test score
Group A: Did not listen to music	6.7
Group B: Did listen to music	4.7

Using the data from the table, plot a graph showing the dependent variable against the independent variable on the grid below. Include a title, labelled axes, and appropriate scales and units.

Students in both groups then participated in a focus group where open ended questions were asked to find out their thoughts about whether it was easier or harder to compete the concentration test while listening to music.
The responses were as follows:

"It was harder to concentrate without music"
"I liked the music, it helped me concentrate"
"The music was peaceful, and I felt relaxed"
"It was too quiet without the music"
"I found the concentration test hard"
"The concentration test was easy anyway"
"The concentration test was easy listening to the music"
"I thought the music was good"
"I would listen to music again next time"
"The music helped me"
"It was too quiet for me to concentrate"
"I thought the music was helpful"

Summarise the responses above into a Frequency table using a content analysis process.

Themes	Frequency of themes	Examples from participants

EFFECTIVE SCIENTIFIC COMMUNICATION

Effective scientific communication is clear, concise and credible.

- **Communicate to specific audiences and for specific purposes using:**
  - **appropriate language**
  - **terminology**
  - **conventions including appropriate acknowledgement of sources of information**
  - **cultural deftness.**
- **Describing the conventions used in scientific articles.**

2022 Subject Outline | Stage 2

Information presented in scientific reports must be clear, concise, well-articulated and credible. Thorough and successfully scientific practice emerges from strong conceptual understanding of the underlying psychological concepts, but also the ability to communicate effectively in multiple forms with an investigation report. The different forms of communication include communicating clearly in written prose, through data analysis and presentation, explanation of statistics, and through accurate graphs.
The first step achieving this is to ensure the general layout and headings of a scientific report are followed.

Figure 6.4.11: Research conducted by University students is often presented in a large poster format and shared at research conventions.

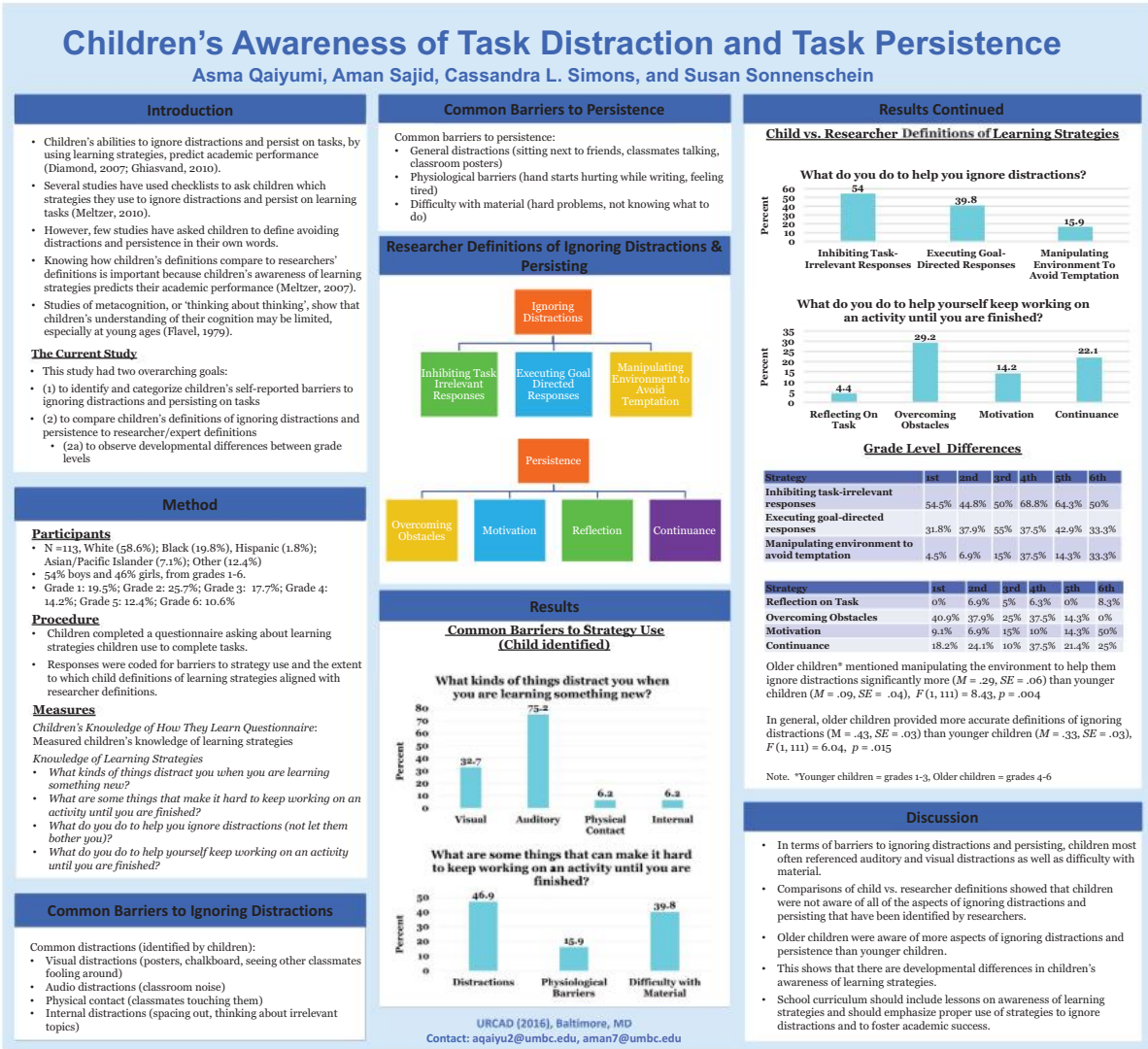
Scientific reports need to be tailored to specific audiences, and for specific purposes. Depending on whether the results of a study are being published in a scientific research journal, are being shared in a magazine, news article, blog or in a scientific poster at University, infographic or school report, appropriate language, terminology, acknowledgement of sources and awareness of appropriate cultural implications is important.

Scientific communication should:

- Demonstrate a good understanding of the psychological concepts being discussed
- Use correct grammar in extended written prose
- Use complete sentences
- Use correct spelling
- Use short and clear sentences the convey the information required.
- Be able to be understood by someone with little background knowledge of the subject.
- Use technical terms correctly
- Use formal scientific language
- Avoid the use of personal pronouns, emotive words and ambiguous expressions.

Conventions used in scientific reports and articles

Scientific information should be communicated according to accepted **scientific conventions**. These **conventions** include significant figures, formulae, units, and data (graphs, diagrams, tables).



Children's Awareness of Task Distraction and Task Persistence

Asma Qaiyumi, Aman Sajid, Cassandra L. Simons, and Susan Sonnenschein

Introduction

- Children's abilities to ignore distractions and persist on tasks, by using learning strategies, predict academic performance (Diamond, 2007; Ghiasvand, 2010).
- Several studies have used checklists to ask children which strategies they use to ignore distractions and persist on learning tasks (Meltzer, 2010).
- However, few studies have asked children to define avoiding distractions and persistence in their own words.
- Knowing how children's definitions compare to researchers' definitions is important because children's awareness of learning strategies predicts their academic performance (Meltzer, 2007).
- Studies of metacognition, or 'thinking about thinking', show that children's understanding of their cognition may be limited, especially at young ages (Flavel, 1979).

The Current Study

- This study had two overarching goals:
- (1) to identify and categorize children's self-reported barriers to ignoring distractions and persisting on tasks
- (2) to compare children's definitions of ignoring distractions and persistence to researcher/expert definitions
  - (2a) to observe developmental differences between grade levels

Method

Participants

- N =113, White (58.6%); Black (19.8%), Hispanic (1.8%); Asian/Pacific Islander (7.1%); Other (12.4%)
- 54% boys and 46% girls, from grades 1-6.
- Grade 1: 19.5%; Grade 2: 25.7%; Grade 3: 17.7%; Grade 4: 14.2%; Grade 5: 12.4%; Grade 6: 10.6%

Procedure

- Children completed a questionnaire asking about learning strategies children use to complete tasks.
- Responses were coded for barriers to strategy use and the extent to which child definitions of learning strategies aligned with researcher definitions.

Measures

Children's Knowledge of How They Learn Questionnaire: Measured children's knowledge of learning strategies

Knowledge of Learning Strategies

- *What kinds of things distract you when you are learning something new?*
- *What are some things that make it hard to keep working on an activity until you are finished?*
- *What do you do to help you ignore distractions (not let them bother you)?*
- *What do you do to help yourself keep working on an activity until you are finished?*

Common Barriers to Ignoring Distractions

Common distractions (identified by children):

- Visual distractions (posters, chalkboard, seeing other classmates fooling around)
- Audio distractions (classroom noise)
- Physical contact (classmates touching them)
- Internal distractions (spacing out, thinking about irrelevant topics)

Common Barriers to Persistence

Common barriers to persistence:

- General distractions (sitting next to friends, classmates talking, classroom posters)
- Physiological barriers (hand starts hurting while writing, feeling tired)
- Difficulty with material (hard problems, not knowing what to do)

Researcher Definitions of Ignoring Distractions & Persisting

Ignoring Distractions → Inhibiting Task Irrelevant Responses; Executing Goal Directed Responses; Manipulating Environment to Avoid Temptation

Persistence → Overcoming Obstacles; Motivation; Reflection; Continuance

Results

Common Barriers to Strategy Use (Child identified)

What kinds of things distract you when you are learning something new?

What are some things that can make it hard to keep working on an activity until you are finished?

URCAD (2016), Baltimore, MD

Contact: aqaiyu2@umbc.edu, aman7@umbc.edu

Results Continued

Child vs. Researcher Definitions of Learning Strategies

What do you do to help you ignore distractions?

What do you do to help yourself keep working on an activity until you are finished?

Grade Level Differences

Strategy	1st	2nd	3rd	4th	5th	6th
Inhibiting task-irrelevant responses	54.5%	44.8%	50%	68.8%	64.3%	50%
Executing goal-directed responses	31.8%	37.9%	55%	37.5%	42.9%	33.3%
Manipulating environment to avoid temptation	4.5%	6.9%	15%	37.5%	14.3%	33.3%

Strategy	1st	2nd	3rd	4th	5th	6th
Reflection on Task	0%	6.9%	5%	6.3%	0%	8.3%
Overcoming Obstacles	40.9%	37.9%	25%	37.5%	14.3%	0%
Motivation	9.1%	6.9%	15%	10%	14.3%	50%
Continuance	18.2%	24.1%	10%	37.5%	21.4%	25%

Older children* mentioned manipulating the environment to help them ignore distractions significantly more ($M = .29$, $SE = .06$) than younger children ($M = .09$, $SE = .04$), $F(1, 111) = 8.43$, $p = .004$

In general, older children provided more accurate definitions of ignoring distractions ($M = .43$, $SE = .03$) than younger children ($M = .33$, $SE = .03$), $F(1, 111) = 6.04$, $p = .015$

Note. *Younger children = grades 1-3, Older children = grades 4-6

Discussion

- In terms of barriers to ignoring distractions and persisting, children most often referenced auditory and visual distractions as well as difficulty with material.
- Comparisons of child vs. researcher definitions showed that children were not aware of all of the aspects of ignoring distractions and persisting that have been identified by researchers.
- Older children were aware of more aspects of ignoring distractions and persistence than younger children.
- This shows that there are developmental differences in children's awareness of learning strategies.
- School curriculum should include lessons on awareness of learning strategies and should emphasize proper use of strategies to ignore distractions and to foster academic success.

Figure 6.4.12: One example of presenting scientific research in a professional poster format for sharing with colleagues.

HELPFUL ONLINE RESOURCES

A short guide on Scientific Writing:
https://tinyurl.com/5xj7sryy

Conventions of science writing:
https://tinyurl.com/2knw8hrj

Critically evaluate and acknowledge sources

In Stage 2 Psychology, students are required to critically evaluate and acknowledge sources. The SACE Board of South Australia provides extensive guidelines for both these topics. To access these resources and ensure that you comply with all ethical guidelines, please access the SACE Website below.
https://tinyurl.com/d7m7ajyk

South Australian Certificate of Education

SIS 5 USING STATISTICS TO ANALYSE TRENDS, PATTERNS AND CORRELATIONS

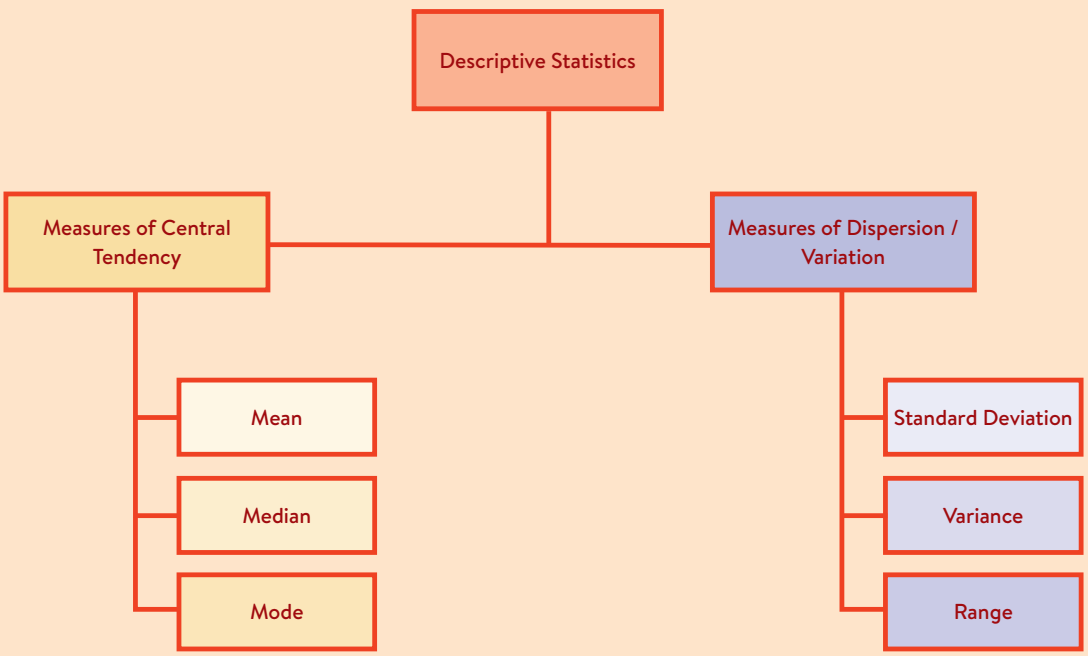
Analysis of the results of investigations allows them to be interpreted in a meaningful way.

- Analyse data, including:
  - identification and discussion of trends, patterns, and correlations
  - the appropriate use of descriptive statistics (means, medians, standard deviations)
  - calculations of mean and median for quantitative data sets.

2022 Subject Outline | Stage 2

Descriptive Statistics

In this section we will look at the ways in which data gathered from psychological research is presented and interpreted. **Descriptive Statistics** allow the researcher to organise and describe data from **Quantitative designs** using a simple value representing the data set. This assists in the ability to identify patterns or trends in a data set which enables conclusions to be made regarding research findings.



MEASURES OF CENTRAL TENDENCY

Measures of central tendency provide information on the central value and distribution of a data set and includes the mean, mode and median. Dispersion is the degree to which data is distributed around Central tendency, and is represented by range, deviation, variance, standard deviation.

Mean

Is calculated by adding all the values in the data set together, then dividing by the number of data sets. This is often referred to as the average.

Strengths: It makes use of all the data. (see example below)

Weakness: It is not representative when extreme values exist in the data. Susceptible to the influence of outliers.

Mode

Is the most frequently occuring value in the data. It is often the highest bar when represented on a histogram.

Strengths: Useful when data invloved categories

Weakness: General not used in Psychological data unless representing categoy based data. Not useful if there is more than 1 mode occurring in a data set. It does not tell us anything about the other values.

Median

Is the middle value in a data set when the data has been ordered from the smallest to largest value.

Note: If the list includes an even number of values, the median is the arithmetic average of the middle two numbers.

Strengths: Is not affected by extreme scores (outliers). It can also be used with skewed data.

Weakness: It is less useful when there is a small or large amount of data.

3, 3, 6, 8, 10

(3+3+6+8+10) 5

Hey diddle diddle, the **Median's** the middle. You add, then divide, for the **Mean**. The **Mode** is the most common one that you see and the **Range** is the difference in between.

3, 3, 6, 8, 10

3, 3, 6, 8, 10
10-3=

Figure 6.5.1: A helpful rhyme to remember the Median, Mean, Mode and Range.

Working out the measure of central tendency:

Mean

11,12,9,7,26,8,9,

11+12+9+7+26+8+9= 82

82/7 = 11.6

Mode: 9

Median= 7,8,9,**9**,11,12,26 (most central data point)

CHECKING FOR UNDERSTANDING
FIND THE MEAN, MEDIAN AND MODE OF THIS DATA

Scores from a mathematics test given to 18 students,

Q1: 41, 39, 48, 52, 46, 62, 54, 40, 96, 52, 98, 40, 42, 52 60, 25, 22, 74

Mean: .. .. Mode: .. .. Median: . .. .

Q2: Reaction times to the nearest second have been recorded as follows.

14, 25, 14, 28, 18, 17, 18, 14, 23, 22, 14, 18.

Mean: .. .. Mode: .. .. Median: . .. .

Q3: The heights (in cm) of 12 students of a class are as follows:

155, 160, 145, 149, 150, 147, 152, 144, 148, 144, 173, 160

Mean: .. .. Mode: .. .. Median: . .. .

GRAPHICAL REPRESENTATION

Measures of central tendency are often presented in frequency polygons displaying a bell curve where there is a normal distribution of data. (See Figure 6.5.2). The curve is symmetrical, and the mean, median, and mode fall at the highest point on the curve. Many everyday data sets follow the normal distribution and can be presented in a histogram such as, height and weight, marks on a test, blood pressure amongst many.

- mean = median = mode
- symmetry about the centre
- 50% of values less than the mean and 50% greater than the mean

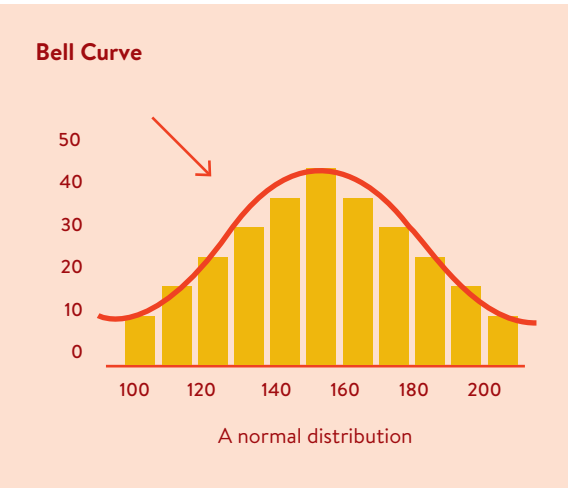


Figure 6.5.2: A Normal Distribution shows 50% of data above the mean, and 50% of data below the mean, in a bell-shaped curve.

Whilst much data falls under a normal distribution, some data sets are skewed. This means data will be grouped towards one end with the mean, median and mode falling at different points. Unlike a normal distribution, skewed distributions are asymmetrical. Distributions skewed to the left are **negatively skewed** (see diagram a) with distributions falling to the right being **positively skewed** (see diagram c). Skewed data essentially tells us the probability of occurrence that random variables deviate from the normal distribution.

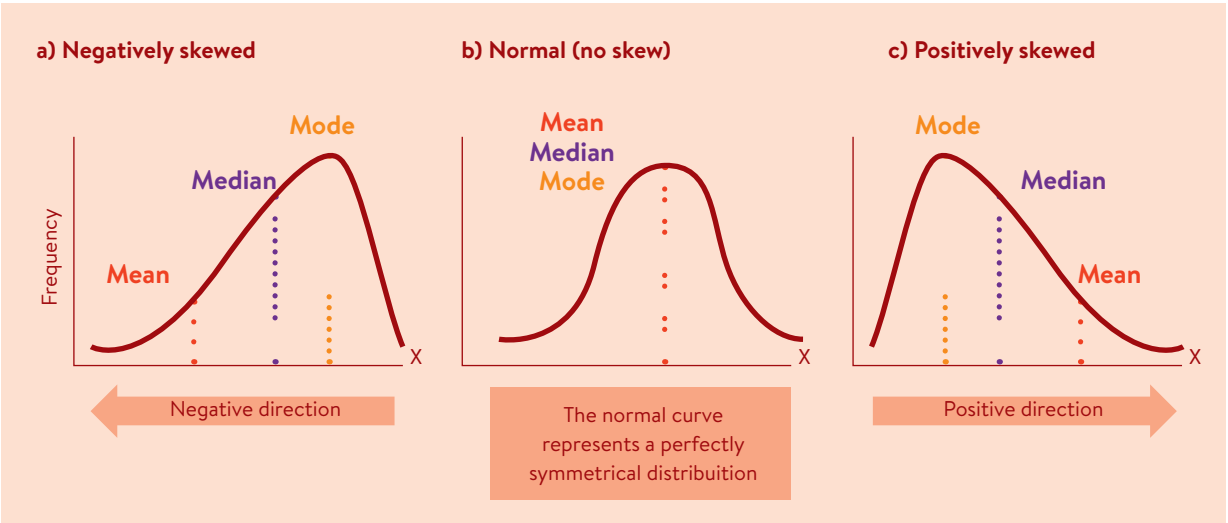
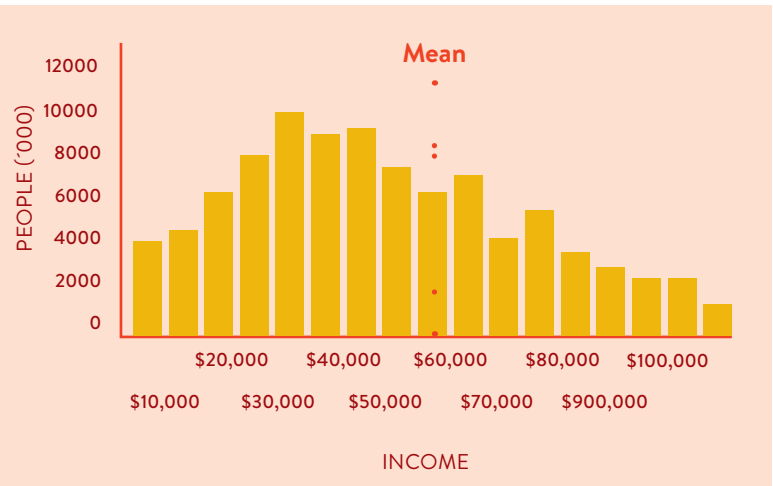


Figure 6.5.3: The skew is described by the "tail" of the graph. The graph on the left is a negatively skewed graph, as the part of the graph that has a wide range of data is skewed to the negative (or lower) numbers on the X axis. The graph on the right is positively skewed, as the data with a wide range is skewed to the positive (or higher) numbers on the X axis.

Have you searched for mean salary when considering your future career prospects? Mean salaries often provide a great example of skewed data. The diagram below shows us the mean income in Australia. The data is skewed to the right which causes the mean to be greater than the median and mode.



The median is resistant to outliers because it is locating the exact centre, or middle of the data distribution.

Since outliers and/or strong skewness affect mean and standard deviation, mean and standard deviation should not be used to describe a skewed distribution or a distribution with outliers.

Figure 6.5.4: Mean income in Australia is positively skewed, as there is a greater variation in the incomes of people earning over $55,000 (the mean income). The mode in this diagram shows that the most frequent income is $30,000.

Follow this link to the Australian Bureau of statistics for accurate data about median income in Australia.
https://tinyurl.com/8f5h6md4

MEASURES OF DISPERSION

Measures of dispersion enable us to examine the variability of data from the mean within a data set. There are three widely used measures of variability, namely the range, variance and **standard deviation (SD)**. (Note you will not be required to calculate these values but you will be required to interpret the SD in a data set).

The **range** describes the spread of scores in a distribution and is calculated by subtracting the lowest from the highest score in the distribution.

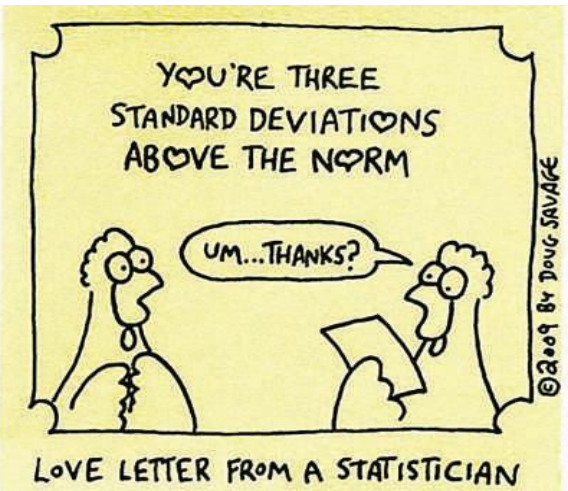
The individual hours of study reported by Psychology students are: 4, 3, 6, 10. The range is 10 – 3 = **6**

CHECKING FOR UNDERSTANDING

Calculate the range for this dataset:
94, 88, 75, 87, 79, 88, 65, 91

Range=

Most research data is made up of measures or values where there is some variability. Low variability indicates scores are packed tightly around the mean with high variability indicating scores are more widely spread around the mean.



STANDARD DEVIATION

Standard deviation is a measure which tells us how dispersed (spread) the scores are around the mean in any data set. A small standard deviation means little variability while a large standard deviation means high variability (see Figure 6.5.5). Standard deviation helps researchers to decide if data is statistically significant or falls within the expected variation.

Standard deviation is one of two main factors contributing to the **reliability** of the population mean. This **reliability** is often quantified as the standard error (SE) of the mean. Standard error is also inversely proportional to the **sample size**; the larger the **sample size**, the smaller the standard error due to the proximity to the actual value.

In a Normal distribution, 68% of all values are within one standard deviation, therefore approximately (68%) of scores will lie within one SD to either side of the mean when data is gathered from a representative sample of the target population. This indicates that most data reported will lie within one

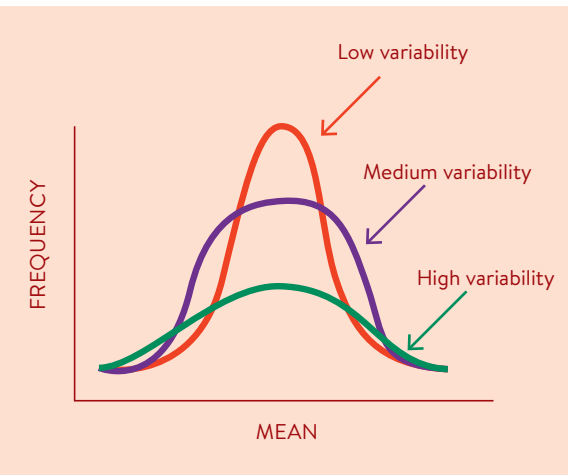


Figure 6.5.5: A normal distribution of data, but shown with low, medium and high variability.

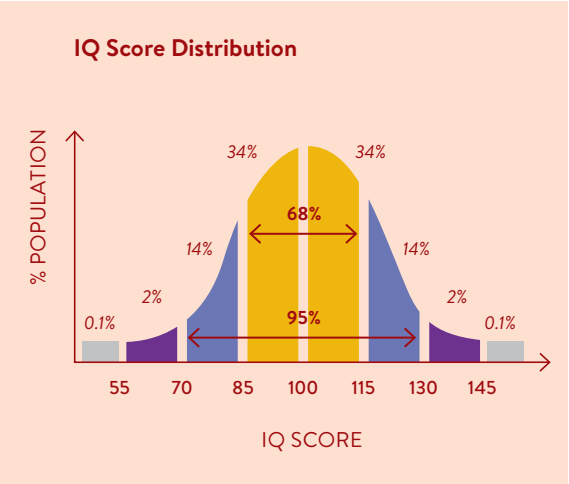


Figure 6.5.7: A normal distribution showing the dispersion ± 3SD from the mean.

SD of the mean, 95.44 % will lie within two standard deviations, and 99.7% of all values lying within three standard deviations. **This does not apply to small sample sizes**. Therefore, it is unlikely that results collected from Stage 1 or 2 Psychology investigations will fall into the expected SD due to the limited sample as the sample is not representative of the whole population.

In general, a larger SD means there is greater variance of data from the mean, thus the results are not as reliable compared to those with a smaller SD. Statisticians have agreed that data should be no more than ± 2SD to be considered reliable.

HELPFUL ONLINE RESOURCES

Standard deviation
Here is a short video clip to explain the key concepts of standard deviation:
https://tinyurl.com/tzssczn

Tip: You will not be required to calculate SD in the Psychology exam. Your knowledge and understanding will be tested by your ability to explain what a data set is showing in terms of the standard deviation.

Let's look at an example.
22 Psychology students are tested where the maximum score is 60.

	Class 1 scores	Class 2 scores
	46	43
	48	55
	47	60
	48	55
	50	60
	51	42
	52	44
	38	57
	40	32
	41	54
	44	52
	46	41
	46	41
	48	40
	56	33
	52	41
	54	54
	48	57
	47	44
	44	59
Total	920	964
Mean	46	48.2
SD	4.66	9.16

This tells us that class 2 had a larger spread of scores around the mean compared to group 1, indicating that group 1 data is more reliable than group 2.

CHECKING FOR UNDERSTANDING

Psychologists were interested in exploring the relationship between time spent on social media and hours of sleep. Participants were placed in two groups (A and B), depending on how much time they spent on social media. The Epworth Sleepiness Scale (ESS) was used to measure the level of sleepiness of participants over 2 weeks. The mean and standard deviation (SD) for each group is provided below. Higher mean scores indicate higher levels of sleepiness

	Weekly recorded hours spent on social media	ESS	SD
Group A	**< 10**	**13**	**7**
Group B	**> 10**	**17**	**4**

Discuss what the standard deviations tells us about the results from this study.

IDENTIFYING TRENDS, PATTERNS AND CORRELATIONS IN DATA

Did you know that when there is an increase of murder in New York city there is also an increase in ice-cream sales? (Rumsey, 2021). Likewise, when the number of ice-cream sales increase, so do the number of shark attacks. (see Figure 6.5.9). This does not mean the sharks are responsible for an increase in ice-cream sales nor is the ice-cream vendor responsible for an increase in shark attacks. A more likely explanation is that when it gets warmer more people go to the beach and with more people in the water it increases the possibility of a shark attack to occur. Likewise, people at the beach on a warm day often purchase ice-cream but the vendor is not responsible for the increasing shark attacks. This concept is referred to as a **correlation** and tells us of the **relationship** between two variables.

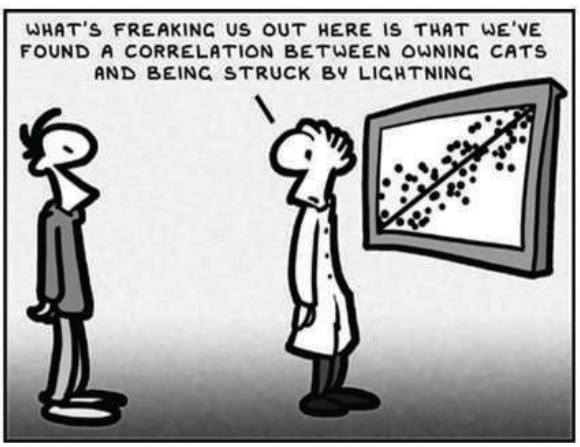


Figure 6.5.8: A humorous example of data showing an unlikely positive correlation between owning a cat and being struck by lightning.

What the data cannot tell us is why or how the relationship between the two variables exist, only that it does. Unlike experimental data, correlational data does NOT imply a cause-and-effect relationship between the variables.

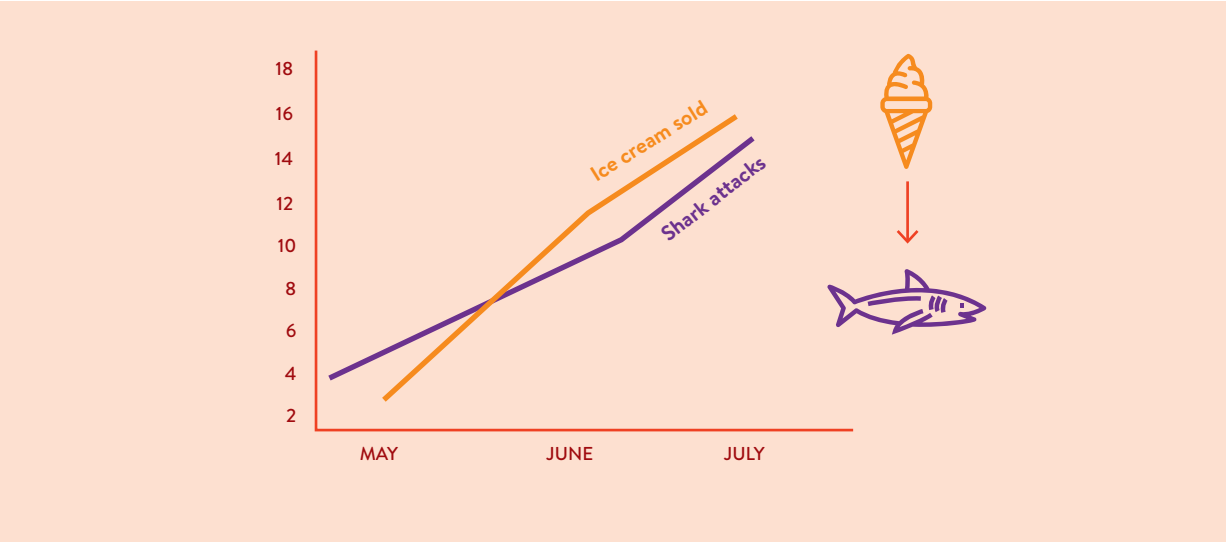


Figure 6.5.9: A correlation graph showing that when the number of ice-cream sales increase, so do the number of shark attacks.

Once data has been collated and displayed in the appropriate presentations, researchers are able to identify trends in the data set. Correlational data is generally presented on a scatterplot which you looked at in the previous section of this chapter. Scatterplots provide a graphical representation of the strength and direction of correlations if any exist. Have a look at the scatterplot graphs below.

Revision time and test scores

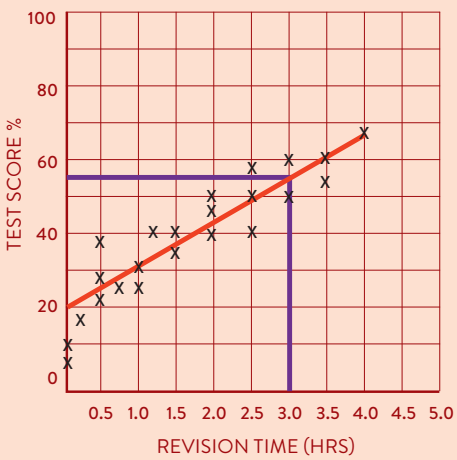


Figure 1: Positive correlation

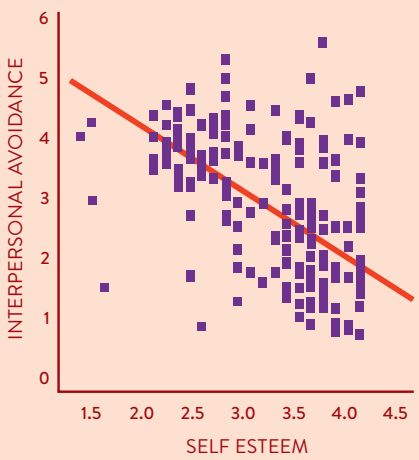


Figure 2: Negative correlation

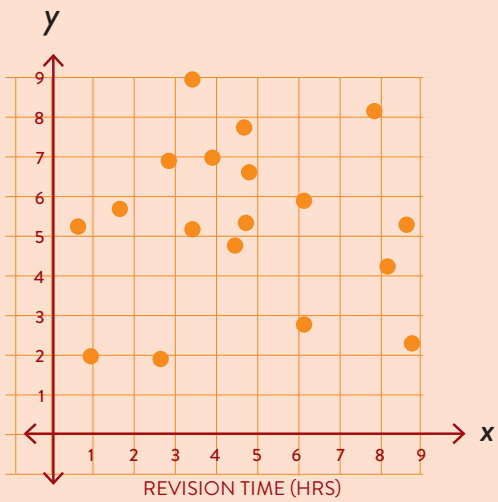


Figure 3: No correlation

A **positive correlation** shows that as one variable increases, so does the other whereas a **negative correlation** shows that as one variable increases, the other decreases.

- Figure 1 shows that students with higher revision times had higher test scores compared to students with lower revision times and lower test scores. This is showing that there is a positive relationship between both variables.
- Figure 2 shows that people with higher levels of avoidance behaviours also had lower self-esteem. This is showing a negative relationship between the two variables but there is still a relationship of some sort existing.
- In comparison figure 3 shows that there is no relationship between gender and success in Psychology exam performance. Therefore, determining gender is not a contributing factor in the student's success.

CHECKING FOR UNDERSTANDING: PLOTTING DATA ON A SCATTERPLOT

A teacher wanted to know whether the performance in a test was linked to the distance the student travelled to school. The teacher obtained the following results:

Distance (km)	Test Score
0.1	37
0.1	74
0.2	22
0.3	70
0.5	65
0.5	56
0.8	64
1.2	41
1.4	39
1.7	48
1.7	67
1.8	53
2.3	44
2.4	35
3.0	42
6.4	66

Plot the data and determine if there is a correlation between the distance travelled to school and test scores.

Correlation: .. ..

Note: Related information but not required knowledge for SACE, - the strength of a relationship between variables is known as the correlation coefficient. There are several statistical formulas to calculate the coefficient demonstrating strength: a value of 1 indicates a strong positive relationship with -1 indicating a strong negative relationship. 0 indicating that no relationship exists between the two variables.

SIS 6 CRITICAL EVALUATION OF PROCEDURES AND DATA

Critical evaluation of procedures and data can determine the meaningfulness of the results.

- **Identify sources of uncertainty, such as confounding and extraneous variables**
- **Evaluate the reliability and validity of data.**
- **Discuss how the following could affect the data obtained in an investigation:**
  - **sample size**
  - **representativeness of sample**

2022 Subject Outline | Stage 2

It is important for researchers to consider sources of uncertainty prior to accepting or rejecting the hypothesis, and it is the responsibility of the researcher to make sure that the methods that they have been using to conduct the research, are **valid** and **reliable**, and have eliminated as many **extraneous variables** as possible. If, at the end of the research, there are issues found through a critical evaluation of the procedures and data, the researcher needs to identify these issues as **confounding variables** and determine the extent to which they impact the conclusion of the research.

STUDY FINDS THE LESS YOU SLEEP, THE LESS PEOPLE LIKE YOU

A new study reveals people don't want to socialise with a sleep deprived person.

It turns out, the concept of beauty sleep is not just clever marketing from cosmetics makers. According to a recent study published in the Royal Society Open Science Journal, not getting enough sleep makes you less attractive, less healthy and damages your social appeal.

The study discovered that sleep deprivation and looking tired not only have a direct relationship to health and attractiveness, but people are less likely to interact with someone who looks tired and unhealthy.

Conducted at the Karolinska Institute in Sweden, researchers photographed 25 male and female students without makeup after they had slept for eight hours for two consecutive nights. The researchers took another set of photographs of the students after they restricted their sleep to four hours a night for two consecutive nights. Researchers presented each student's photographs to a group of 122 strangers who rated each image in terms of attractiveness, health, sleepiness and trustworthiness.

Of course, most people gave lower scores to the people in the sleep-deprived images, labeling them as less attractive and less healthy. Raters admitted to being less inclined to socialize with sleep-deprived individuals, and the study goes so far as to suggest that people might avoid contact with a sleep-deprived person in order to reduce health risks.

According to the study, "Having an unhealthy-looking face, whether due to sleep deprivation or otherwise, might thus activate disease-avoidance mechanisms in others and render one's surroundings less socially inclined."

However, while the study found that people were found to be less attractive when lacking sleep, it discovered no change in other's perception of how trustworthy a person appears.

https://tinyurl.com/5yspwxhe

SOURCES OF UNCERTAINTY IN THE PROCEDURES

Sources of uncertainty in research can occur at any step in the research process. Many of these have been highlighted throughout the Science Inquiry Skills topic and include issues that arise from:

Extraneous variables

Are there any participant variables to be considered?

- Are there any situational variables that might impact the data?
- Is the evidence of experimenter effects at play?
- Could the placebo effect interfere with the data?

Research method used

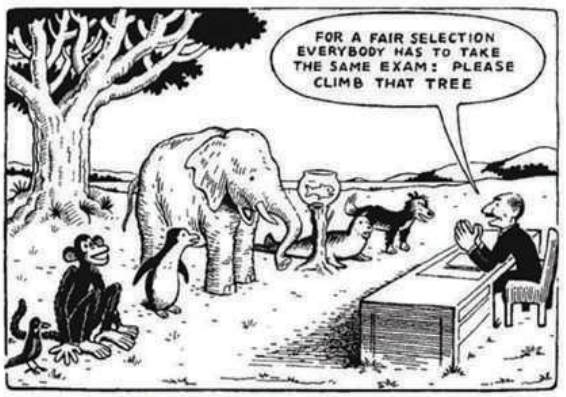
- Was the most appropriate test used?
- Were there flaws or errors in the measuring tool?
- Were the questions / procedures confusing?
- Was there inherent bias in the questions / procedures that favoured one group over the other?
- Was a control group used?

Sample Size

- Was the sample large enough to represent the research population?
- Was the best type of sampling technique used to select the sample?

Sample Representativeness

Do the characteristics of the sample match the characteristics of the population?



Explain the limitations of the sample depicted in the cartoon above.

CONSIDERING THE IMPLICATIONS ON THE DATA

Read the article about sleep on page 480 and consider whether there are any sources of uncertainty that might impact on the data.

Explain how the data might be affected by any confounding variables you identify.

.. ..

.. ..

.. ..

.. ..

.. ..

VALIDITY AND RELIABILITY

In addition to identifying confounding variables, it is important that the researcher evaluates the extent to which the methods they are using to test the impact of the IV on the DV are valid and reliable. If the researcher is unable to be confident that their procedures are valid and reliable, then the data, and ultimate conclusion may produce inaccurate, false or misleading results.

Reliability is a measure of **consistency**, if a particular measurement is repeated and the same result is obtained then it is described as being reliable.

- **Test-retest reliability** – Assessing the same person on two different occasions which shows the extent to which the test produces the same answers. Tests, questionnaires and other measurement tools need to give consistent results over time and items in the test need to be consistent with each other.
- **Inter-observer reliability** – the extent to which there is agreement between two or more observers. The extent to which different observers, scoring the same participants, achieve consistency.

Validity is concerned with the extent to which something **measures** what it sets out to measure.

- **Internal validity** is concerned with the extent to which research findings are due to the mechanisms suggested. For instance, are results due to some unwanted variable (e.g., individual differences, effects of practice, researcher effects, demand characteristics) rather than the IV? Internal validity is also compromised if no effect is found when in fact an effect actually exists.
- **External validity** is the extent to which the results found in research can be generalised to an entire population. Gathering data from an unrepresentative sample increases the likelihood of sampling bias which limits the researcher's ability to make conclusions to the wider population. In this case the results are considered to have low external validity.

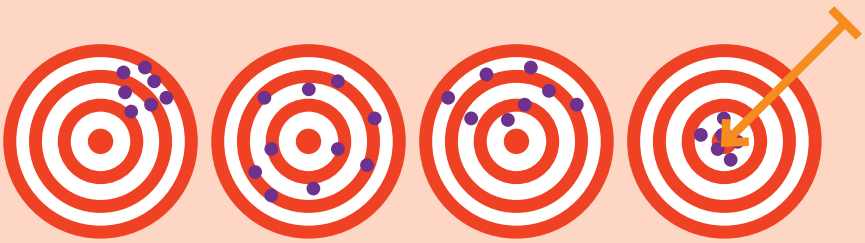
An additional challenge in making definitive or generalised conclusions arises where research is completed in a laboratory or any other artificial setting.

- **Ecological validity** is the extent to which results can be generalised to other situations (e.g., real life). If the experiment was conducted in a lab, we generally state that the results lack ecological validity due to the low mundane realism. (meaning it does not necessarily reflect situations in the real world outside the lab)

Ecological validity is a subtype of external validity.

How is this different from external validity? External validity asks whether the findings of a study can be generalised to participants with characteristics that are different from those in the study, or participants who are treated in a different way. In contrast, ecological validity specifically examines whether the findings of a study can be generalised to naturalistic situations, such as clinical practice in everyday life.

To read about validity in context, refer to the research by Asch in the Social Influence in Topic 4.2 page 266.



The importance of Internal vs External validity depends on the purpose of the study. If the study is designed to test a theory, high internal validity would be preferred to high external validity. However if the study is designed with the intention of applying the results to the real world, then high external validity is important.

HOW PROFESSIONAL RESEARCHERS OVERCOME LIMITATIONS OF THE RELIABILITY OF A SINGLE FINDING

There are many meta-analyses in psychology and medicine, areas where studies often find conflicting results. For example, some experiments might find that a particular drug decreases the risk of heart attack, while other experiments might find the drug doesn't have any particular effect. A meta-analysis takes the results from all published studies on the same question and combines them; it's as if someone has done a single study with a much larger sample size.
Strengths: Increases the validity of the conclusions drawn as they are based on a wider range.
Weaknesses: Research designs in studies can vary so they are not truly comparable.

LIMITATIONS OF DRAWING CONCLUSIONS USING SMALL OR UNREPRESENTATIVE SAMPLES

With all forms of research it is important that the sample is a **random sample** of the population. In other words every person in the population had an equal chance of being chosen in the sample. If it is not a random sample the experiment or survey may not accurately reflect the population.
Size: larger samples are more likely to reflect the population. A small sample may be biased in terms of factors such as gender, age, socio-economic status or cultural groups, therefore doesn't represent all the key interest groups within a population.

Unrepresentative samples: an unrepresentative sample is a sample which does to represent the population due to its size or that is biased in term of factors such as gender, age, socioeconomic status or cultural groups. An unrepresentative sample can lack **internal validity** which means that it does not test the hypothesis.

Using small or unrepresentative sample doesn't' represent the population therefore it may be inaccurate to generalise results to the wider population.

SCIENCE AS A HUMAN ENDEAVOUR: REAL WORLD APPLICATION

Ecological validity was originally invoked in the context of laboratory studies that required to be generalized to real-life situations. Thus, laboratory studies of the neuropsychological and psychomotor impairments produced by psychotropic drugs have poor ecological validity because what is studied in relaxed, rested, and healthy subjects tested in a controlled environment is very different from demands that stressed patients face in everyday life. In fact, these cognitive and psychomotor tests, especially when based on computerised tasks, have no parallel in everyday life. In this example the external validity is low.

CHECKING FOR UNDERSTANDING

New study shows popular smart watches accurately measure rapid heartbeat.
A new study is the first to validate the accuracy of wrist-worn wearable devices in measuring induced paroxysmal supraventricular tachycardia (PSVT), or episodes of rapid heart rate. Three common wearable devices including the Apple Watch Series 2, Samsung Galaxy Gear S3 and the Fitbit Charge 2, were randomly assigned to patients to measure heart rate. Wearable devices are very popular and are now widely used not only to track fitness levels, but to also capture and monitor heart rates with photoplethysmography (PPG) technology. However, few studies are published that evaluate the accuracy of these devices especially in an arrhythmic situation. The study included 51 patients with a history of PSVT who were scheduled to undergo an electrophysiology study. The mean patient age was 44.4±16.6 years old and 53 percent were male. The study assessed three common wearable technologies, the Apple Watch Series 2 (Apple), Samsung Galaxy Gear S3 (Samsung) and the Fitbit Charge 2 (Fitbit). Patients were randomly assigned to wear two different devices, one on each wrist. The heart rate at baseline and during induced PSVT was evaluated.

The baseline heart rate ranged from 50 beats per minute (bpm) to 101 bpm. The accuracy of the wearables at detecting baseline heart rate within five bpm was 100 percent, 100 percent and 94 percent for Apple, Samsung and Fitbit, respectively. Heart rate during PSVT ranged from 108 bpm to 228 bpm. The accuracy within 10 bpm was 100 percent, 100 percent and 88 percent for Apple, Samsung and Fitbit, respectively. The rate or type of PSVT, age and sex did not influence device accuracy.

	Baseline heartrate range 50 (bpm) to 101 (bpm)	**Heartrate during PSVT 180 (bpm) to 228 (bpm)**
Apple	100% accuracy	100% accuracy
Samsung	100% accuracy	100% accuracy
Fitbit	94% accuracy	88% accuracy

Adapted from: **https://tinyurl.com/mtcx7dbk**

Critically evaluate the study above with regard to validity and reliability. Suggest future improvements for the researchers.

SIS 7 DRAWING CONCLUSIONS AND MAKING GENERALISATIONS

Conclusions can be formed that relate to the hypothesis or inquiry question.

- Select and use evidence and scientific understanding to make and justify conclusions.
- Explain the limitations of conclusions.
- Explain why the results of some investigations may not lead to definitive conclusions.

2022 Subject Outline | Stage 2

Using evidence and scientific understanding to make and justify conclusions

PUTTING IT ALL TOGETHER!

The main reason for conducting psychological research is to be able to apply what we have learned from a research study to the population of interest. If the results of the study are conclusive, and were useful, beneficial, or demonstrated something for the sample group, then it is logical that the results will be applicable, useful or beneficial to the research population too!

A **conclusion** is a decision or judgement about the results and must circle back to the original hypothesis to determine whether the hypothesis was supported, or not supported. Before making a conclusion, it is helpful to consider the statistical significance of the results (the likelihood that the results were by chance) so that the researcher can be *confident* that the change in the dependent variable *is due to* the independent variable. Psychologists do not say that a hypothesis has been 'proven' or 'disproven', so instead, they conclude that a hypothesis has been *rejected*, or *supported*.

If a conclusion has been reached, and the researcher is confident when they have evaluated their research procedures, and considered the criteria below, then the research findings can be **generalised** to the research population. A researcher can be confident to generalise the findings when:

- Appropriate research design was conducted
- Appropriate sampling techniques were used
- The sample size was appropriate
- The sample was representative of the characteristics of the population
- Participant, Situational, and Experimenter extraneous variables have been controlled.
- Confounding variables have not occurred
- Appropriate measures were used throughout the research
- The measures used produced valid and reliable results
- Data was presented accurately.
- Data analysis was interpreted accurately, without bias
- All ethical procedures were followed correctly
- The results are significant.

HELPFUL ONLINE RESOURCES

Limitations of a study
For more information about identifying limitations of a research study visit:
https://tinyurl.com/2hhhn7uc

Limitations of conclusions

Conclusions can be limited by any number of the points mentioned above.
When discussing the limitations of your research, be sure to:

- Describe each limitation in detailed but concise terms.
- Explain why each limitation exists.
- Provide the reasons why each limitation could not be overcome using the method(s) chosen to acquire or gather the data [cite to other studies that had similar problems when possible].
- Assess the impact of each limitation in relation to the overall findings and conclusions of your study; and,

- If appropriate, describe how these limitations could point to the need for further research.

CULTURAL CONTEXT

When evaluating the findings of research, it is crucial to consider the cultural context and relevance this has in terms of application beyond the culture of those in the sample.

Ethnocentrism refers to a tendency to use your own culture as the standard by which to judge and evaluate other cultures. It can also make it difficult to see how your own cultural background influences your behaviours. For example, observing behaviour of non-Indigenous Australians in the process of mourning and using this as a template of expectation of how Indigenous Australians or any other cultural group 'should' mourn.

A method of reducing this phenomenon is to conduct cross-cultural research where each varying phenomenon is viewed in its own context and described and interpreted relative to the cultural or ecological situation in which it occurs.

The results of some investigations may not lead to definitive conclusions

It is possible to conclude a **null hypothesis.** A **null hypothesis** states that there is no relationship between the two variables being studied (one variable does not affect the other). It states results are due to chance and are not significant in terms of supporting the idea being investigated.

INFERENTIAL STATISTICS:

Note to teachers and students, Inferential statistics are not explicit in the subject outline, therefore are not expected to be calculated or referred to throughout the Stage 2 Psychology course. A basic understanding of statistical significance may support students when making judgements about conclusions from their studies.

Whilst descriptive statistics allow researchers to find patterns and trends in data, Inferential statistics enable the researcher to determine if a particular result will happen by chance. This is that the probability of the data obtained are due to the IV in an experiment rather than chance. If the obtained outcome is extremely unlikely to have happened by chance, then the results are thought of as **significant** as determined by a *p* value.

The p value states the percentage probability that the findings have happened by chance, i.e., how **significant.** Psychologists tend to go for 95% certainty therefore there is only a 5% (**P < 0.05)** likelihood that the results happened by chance. This allows the researcher to determine a cause-and-effect relationship between two variables and draw conclusions from the research.

In general, psychologists use a 5% significance level. One reason for this is that a 5% degree of uncertainty is usually acceptable if it is not a life and death matter, whereas, for example, research on the side effects of drugs is likely to select a 1% (P < 0.01) significance level because we would want to be very careful about taking chances.

IN SHORT!!

If probability is less than 5% (p<0.05 or 1 in 20) then we can accept the experimental and reject the null hypothesis. If the probability is more than 5% (p>0.05 or 1 in 20) then we must accept the null hypothesis and reject the experimental hypothesis.

Significance generally is a function of sample size—the larger the sample, the less likely it is that one's findings will have occurred by chance. Psychologists conduct research with the intention of generalising the findings to entire populations. However, as you have previously read in an earlier section of this topic, the sampling method and sample size often make it difficult to generalise the findings of Psychological research beyond the sample used.

HELPFUL ONLINE RESOURCES

P Values and Significance:
https://tinyurl.com/5exadh9y

CHECKING FOR UNDERSTANDING

Read the following article. Discuss the conclusions from this research. Determine whether these findings are valid and reliable, and whether these finds are able to be generalised to the research population

New research finds link between drinking coffee and lower body fat

New research suggests that compounds found in coffee other than caffeine may lead to reduced total body fat and obesity, particularly among women.

Led by scientists at Anglia Ruskin University (ARU) in England and published this month in *The Journal of Nutrition*, the study examined relationships between the number of cups of coffee drunk per day and total body fat, as well as abdominal "trunk" fat, or adiposity.

It found that women of all age groups who drink three to four cups of coffee per day had lower total body fat and lower adiposity than women who drink less coffee.

"Our research suggests that there may be bioactive compounds in coffee other than caffeine that regulate weight and which could potentially be used as anti-obesity compounds," Dr. Lee Smith, a reader in public health at ARU and senior author of the study, said in an announcement published by the university. "It could be that coffee, or its effective ingredients, could be integrated into a healthy diet strategy to reduce the burden of chronic conditions related to the obesity epidemic."

The study found that women age 20-44 who drank two or three cups of decaffeinated or caffeinated coffee per day had the lowest incidence of abdominal fat, 3.4% lower than those who did not consume coffee. Women between 45-69 had the highest reduction in abdominal fat compared to non-drinkers of the same gender and age, at 4.1%.

In men, the relationship was less significant but still apparent, with coffee drinkers age 20-44 having 1.3% less total fat and 1.8% less abdominal fat.

Despite the potentially promising findings in relation to combatting obesity, the researchers were hesitant to trumpet any clear trends from the findings, while also noting that the results are not intended to promote coffee consumption as a weight loss strategy.

"It is important to interpret the findings of this study in light of its limitations — the study was at a specific point in time so trends cannot be established," said Smith. "However, we don't believe that someone's weight is likely to influence their coffee consumption."

Access this study at:
https://tinyurl.com/2t8w237j

MULTIPLE CHOICE LEARNING CHECK

1) Which of the following are **unique** characteristics of an experimental design:
   a. Cause- and-effect relationship
   b. Random allocation into groups
   c. Presence of an IV and DV
   d. All of the above

2) Which term identifies limiting the application of the results found in a study to the specific setting it is conducted?
   a. Ecological validity
   b. External validity
   c. Internal Validity
   d. Population validity

3) If a study can be replicated consistently using standardised instructions and finding similar results, it is said to be:
   a. Valid
   b. Consistent
   c. Reliable
   d. Generalised

4) Which of the following are consistent between an Experimental design and Observational designs?
   a. Cause- and-effect relationship
   b. Correlational data
   c. The presence of an IV and DV
   d. All of the above

5) Qualitative data can be obtained from:
   a. Interviews
   b. Focus group
   c. Delphi technique
   d. All of the above

6) What type of data do experiments generate?
   a. Qualitative data
   b. Quantitative data
   c. Subjective data
   d. Content analysis

7) When neither the participant or the experimenter know which group they are assigned to, it is referred to as
   a. Controlled variables
   b. Single blind procedure
   c. Double blind procedure
   d. Deception

8) The process of turning qualitative data into quantitative data is called:
   a. Content analysis
   b. Behavioural counts
   c. Data processing
   d. Behavioural analysis

9) The Delphi technique
   a. Involves small group discussion between 6-8 people on a specific topic
   b. is a process used to arrive at a group opinion or decision by surveying a panel of experts
   c. Involves the use of a scribe
   d. Produces quantitative data

10) Standard deviation tells us
   a. How likely errors have occurred in a data set
   b. How many outliers occur in the data set
   c. Which measure of dispersion to use
   d. The distribution of scores around the mean

11) The median is a better method of central tendency when:
   a. There are significant outliers in the data.
   b. There are more than 5 pieces of data.
   c. Standard deviation is more than 6
   d. There are an odd number of data sets

12) When much of the data is clustered to the right of the graph, the data is
   a. Normal.
   b. Positively Skewed.
   c. Negatively Skewed.
   d. Bimodal.

13) Internal validity is:
   a. Consistency over trials
   b. the extent to which a study establishes a trustworthy cause-and-effect relationship between the IV and DV
   c. a reflection of the experimenters conducts throughout the investigation
   d. the extent to which the results of research or testing can be generalized beyond the sample that generated them

14) *External validity* is:
   a. The likelihood that results would be found under the different conditions
   b. The likelihood that no extraneous variables compromised the results
   c. the extent to which a study establishes a trustworthy cause-and-effect relationship between the IV and DV
   d. the extent to which the results of research or testing can be generalized beyond the sample that generated them

15) A Likert scale provides
   a. Subjective data
   b. Direction of attitude, opinions, or feelings on a specific phenomenon
   c. Rating scale
   d. All of the above

Answers 1, A and B. 2, A. 3, C.4, C. 5, D. 6, B. 7, C. 8, A. 9, B 10, D. 11, A. 12, B.13, B. 14, D. 15, D

SIS 8 ETHICAL PRACTICE

Ethical practice is an integral aspect of psychology.

- Discuss how the following have/have not been demonstrated in research or treatment:
  - respect for the dignity and wellbeing of individuals
  - informing individuals of the nature and purpose of the research/treatment and of any physical or psychological effects that may be expected
  - obtaining voluntary consent from individuals or from their parents or legal guardians
  - protecting any personal information acquired
  - using data only for the purpose for which consent has been obtained
  - respecting the privacy of personal information that is disclosed
  - respecting the right of individuals not to participate in or to withdraw from research/treatment at any time without explanation and without reprisal
  - informing individuals of the results and conclusions of the research.
- Work ethically with others, taking into consideration their physical, cultural and emotional safety.

2022 Subject Outline | Stage 2

Code of Ethics

Most professions have stipulated standards relating to expected conduct and ethical principles which must be followed to ensure the integrity of the services and provisions they provide. The Australian Psychological Society (APS) Code of Ethics, articulates and promotes a set of ethical principles and sets specific standards to guide both psychologists and members of the public to a clear understanding and expectation of what is considered ethical professional conduct by psychologists. This provides an understanding of what is considered minimum expectations regarding psychologists' professional conduct.

The Code is built on three general ethical principles. They are:

A. **Respect** for the rights and dignity of people and peoples (including the right to autonomy and justice).

B. **Propriety** incorporates the principles of beneficence, non-maleficence (including competence) and responsibility to clients, the profession and society.

C. **Integrity** reflects the need for psychologists to have good character and acknowledges the high level of trust intrinsic to their professional relationships, and impact of their conduct on the reputation of the profession (APS Code of Ethics, p7) .

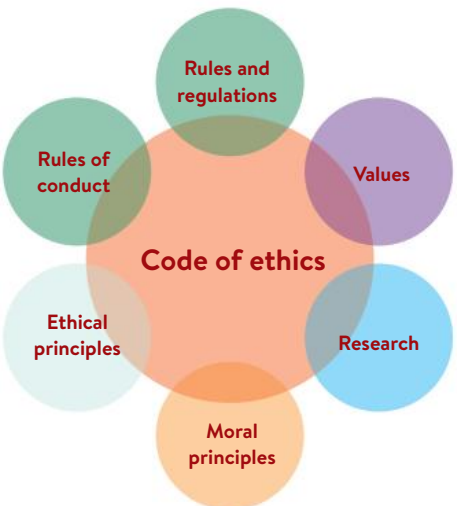


Figure 8.1.1: Australian Psychological Society (APS) Code of Ethics.

The code is accompanied by ethical guidelines for psychological research which cover all aspects of the research, including responsibilities of the researcher, the rights of the research participants, and the use of animals in research. The following ethical guidelines are condensed versions of the conduct outlined in the APS (Australian Psychological Society) booklet.

Freedom from coercion/voluntary participation:

- Participants must have the freedom to say that they don't want to participate in a research project
- They should be advised that they can withdraw from the research at any time without penalty.
- The participants must volunteer to take part in the experiment. They should not be pressured or coerced in any way. Coercion includes large payments of offers of higher grades in their course.

Informed consent:

- The researcher must inform participants about all aspects of the research that are likely to influence their decision to participate in the study, including factors such as risks and discomfort
- Written consent is required
- If the participant is a minor, ie, under 16 years old they cannot give consent without parental consent.
- Psychologists who work with clients whose capacity to give consent is, or may be, impaired or limited (minors under 16 years old), obtain the consent of people with legal authority to act on behalf of the client, and attempt to obtain the client's consent as far as practically possible. Difficulties arise whereby participants have intellectual or mental impairment despite being adults. The researcher must gain consent from legal guardians.
- Parents or legal guardians must be deemed suitable for giving consent, i,e. not under the influence of drugs or alcohol or other mental or intellectual impairment which may impact decision making at the time of consent.

Deception only when necessary:

- Where providing information about the study may influence the participant's behaviour during the research and affect the accuracy of the results deception may be necessary
- Researchers must determine whether the deception is justifiable and ensure that the participant does not suffer distress.
- If deception is used, debriefing is required.

Adequate debriefing:

- The participant must be fully informed of all aspects of the study when it has ended.
- The researcher must correct any mistaken attitudes or beliefs the participant may have about the research.
- The participant should be advised of services available to them should they experience any distress following the research.
- When the study is completed, the participant should be given the opportunity to obtain procedures, results and conclusions.

Confidentiality:

- Information supplied by participants must be kept confidential which involves provisions for storage and disposal of test results and personal data
- Psychologists should only disclose confidential information with permission from the participants or where there is a legal obligation to do so.
- Participants should be informed at the beginning of the research of their confidentiality rights.

No psychological or physical harm:

- The well-being of the participant is paramount therefore participants must not be exposed to situations where Physical or Psychological harm is likely.

Withdrawal Rights:

- Participants must be able to withdraw from the experiment at any time without any negative repercussions. They should not be pressured to stay if they express the desire to withdraw.

Privacy:

- The Psychologist should provide information and explain how data will be collected and recorded
- Provide details of how, where, and for how long, information will be stored, and who will have access to the stored information.
- Psychologists avoid undue invasion of privacy in the collection of information and should be limited to collecting only information relevant to the service being provided.

HELPFUL ONLINE RESOURCES

APS Code of Ethics document:
https://tinyurl.com/22n4w6e3

Work ethically with others, taking into consideration their physical, cultural, and emotional safety

Researchers are required to understand the need to show consideration that some cultural groups may communicate in different ways such as storytelling, art, dance and music. For example, communication through storytelling and/or yarning in the Aboriginal culture is common.

Australia is a land of cultural diversity where research is likely to include participants representing a range of cultural backgrounds. "That is great", you declare as you read this text, after all, we want a representative sample to allow us to generalise the results whilst claiming high external validity and making sound conclusions. However, conducting research in a nation where diversity is rich, requires careful consideration of culturally specific needs to ensure participants emotional and psychological safety are upheld. It is crucial that participants have a sense of safety and inclusion rather than judgement on points of difference.

Cultural relativism is central to psychological research involving diverse cultures and minority groups to avoid ethnocentrism leading to invalid data and subsequent conclusions, particularly where the research design involves **observations** of social interactions and interpretation of behaviours.

Understanding differences in communication will help to ensure cultural safety is maintained, where participant agreement is not confused for consent, for example, both Indian and Aboriginal people often nod in agreement or answer yes to questions they may not understand because they think this is the appropriate response. Others may say yes to a question to end a conversation where they feel uncomfortable in their bid to leave rather than directly agreeing, thus raising further implications regarding consent and wider understanding of their rights when engaged in research.

Knowledge of differences in non-verbal communication such as eye contact, greetings and hand gestures are an important consideration when conducting observational research. For example, Aboriginal and Torres Strait Islander people, avoidance of eye contact is customarily a gesture of respect. In Western society averting gaze can be viewed as being dishonest, rude or showing lack of interest. Likewise, in many Eastern societies, direct eye contact can be perceived as rude or aggressive. Whilst knowledge of what is considered socially acceptable behaviours or taboo topics will be helpful to avoid causing participants emotional, psychological, or physical discomfort during qualitative research designs such as **focus groups**.

Western culture prefers direct questioning compared to Aboriginal and Torres Strait Islander cultures, where indirect questioning is the approach most preferred. Direct questioning may lead to misunderstandings, discourage participation and make it difficult to obtain important information, particularly when a person is communicating in non-Standard English.

Language should be free from colloquialisms based on the researchers' culture to avoid misunderstanding, particularly where there are language barriers within the group or individuals at the centre of the research. Acknowledgement of differences in communication within minority groups will ensure that cultural safety is maintained, e.g., traditions and education within Indigenous groups have been passed on through stories, art and yarning (an important process which helps build relationships and pass on cultural knowledge) rather than written in textbooks.

SCIENCE AS A HUMAN ENDEAVOUR: REAL WORLD APPLLICATION

Cross sectional research conducted into the high prevalence rates of schizophrenia (Sz) within the Black-Afro-Caribbean community found migration or living in their homeland, diagnosis was nine times higher than the white communities. Differences in rates of Sz diagnosis has largely been attributed to Cultural bias, however some researchers have linked this directly to the diagnostic tools developed to enable Psychiatrists to successfully diagnose patients. However, despite a standardised tool, Inter-rater reliability was only reached in 55% of cases where more than one practitioner met directly with patients. Whilst studies indicate a higher genetic predisposition within this community, incidence rates were found to be higher in migrated communities. This brings us back to the concept of cultural bias. The DSM was originally designed based on the observation of psychological disorders within White middle-class communities. Many researchers and practitioners have argued that applying behavioural expectations to ethnic minorities or culture outside of these parameters will cause disadvantaged and ultimately misunderstanding of culturally diverse behaviours. The WHO have since developed the ICD (International classification of Disease) manual from a world-wide perspective meaning Inter-rater reliability should be closer and misdiagnosis based on misinterpretation is reduced.

JURY TASK (FORMATIVE TASK)

You will be divided into 3 groups whereby you will play a role in presenting a case around your allocated or chosen research.

Researcher role: Provide details on the Aim and procedure of their study/research and a brief overview of the findings. The court will provide an opportunity for you to justify your methodology and decisions.

Defence: should deliver 3-4 keys points to defend the ethics demonstrated within the study alongside any other relevant key issues such as ecological validity, demand characteristics and subsequent conflicting results.

Opposition: should deliver a case against the defence regarding the lack of ethics upheld in the study, including a range of questions to clarify understanding of decision making and any other arguments. You should include other relevant key issues such as ecological validity, demand characteristics and subsequent conflicting results.

Closing statement: A brief overview to be delivered to the court of the information provided by the Researcher, Defence and Opposition.

Judge: To decide if the researcher did enough to maintain ethical standards during their research.

Jury: You must have at least 3 questions based on Ethics for the court to be directed to anyone in the legal dispute to the group you are attached to.

TEACHER NOTE: This could be used to formulate an extended essay. E.g.
Outline and evaluate the ethical issues identified in one piece of psychological research.
Critically analyse the methodology used.

Your group will have 15 mins to present your case in the court.

HELPFUL ONLINE RESOURCES

For more information about communicating effectively with Aboriginal and Torres Strait Islander people, please refer to the following educational materials: https://tinyurl.com/jwmtxn8y

https://tinyurl.com/hvedv99n

UNDERSTANDING TERMINOLOGY

Cultural relativism is the practice of assessing a culture by its own standards rather than viewing it through the lens of one's own culture.
Ethnocentrism refers to the evaluations of other cultures based on the expectations of those found in ones own culture therefore creating bias towards others that do not comply.
DSM Diagnostic Statistical manual
ICD (International Classification of Diseases)

CHECKING FOR UNDERSTANDING

Use the spaces below to comment on the ethical breaches for each of the research identified below

Benefits of the research	Responsibility	Physical and psychological harm	Deception	Volunteer participation/ free from coercion	Informed consent	Privacy
Little Albert https://tinyurl.com/hderyb2k	Hint: Did Watson uphold his responsibility to ensure the research design considered psychological protection for Little Albert?					
Harlow's monkeys https://tinyurl.com/txzrepyv						
Dr Money https://tinyurl.com/4d4um2sk						

CHECKING FOR UNDERSTANDING

A researcher is interested in gathering information regarding a new treatment which has been used for the last 18 months with a trial group. He asks for volunteers to engage in a focus group to share their personal experiences of the new treatment.

Identify **two** ethical issues relating to this study.

Issue 1: ..

Issue 2: ..

Choose one of the ethical issues identified above and **discuss** why it is an issue and **how** the researcher could have dealt with this issue.

..

..

..

..

..

..

..

Discuss one ethical consideration researchers need to be mindful of when conducting research with participants from a different culture?

..

..

..

..

..

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..

..

A child psychologist was interested in differences of infants-parents' interactions, compared to infant-stranger interactions. The researcher conducted an observation and gathered data using behavioural counts. Interactions were monitored for 15 minutes with the parents before they were instructed to leave the room. A stranger then entered the room, where the observation of interactions continued for 15 minutes between the infant and stranger. Infants in the research were all 10 months old.

Discuss one ethical issue relating to this study and **how** it might be addressed.

What is a researcher's responsibility when conducting psychological research with animals?

Outline and **critically analyse** the research conducted by Zimbardo in the Stanford Prison Experiment.

TIPS FOR RESPONDING TO QUESTIONS ABOUT ETHICAL ISSUES

Select ethical issues which are specific to the scenario provided

Scenario: Psychologists asked patients at a local hospital to participate in research regarding new psychological treatments.

Tip 1: If the study does not identify minors, DO NOT identify seeking consent from others as the ethical issue.

Tip 2: Do not identify deception if it is not clear that this has occurred.

Relevant ethical issues:

Participants must be fully informed of the nature of the research and any foreseeable risks or harm due to the possible vulnerability of the participants

or

Privacy should be maintained due to the nature of the information gathered. ppt's should also be informed of the collection, storage and sharing of their information.

CHECKING FOR UNDERSTANDING
A REVIEW OF THE SCIENCE INQUIRY SKILLS CONCEPTS

A team of psychologists is investigating the possible emotional impacts of taking a break from using Social Media among a group of year 12 high school students. They hold a meeting to discuss different hypotheses that may be tested in an experiment as well as a consideration of a qualitative investigation they may conduct.

They ask you to give your expert opinion on how they should proceed.

Identify the independent variable in this investigation.

The dependent variable is emotional impact. Describe one subjective quantitative method of assessing this dependent variable.

Formulate a hypothesis that could be tested in an experimental investigation.

Discuss at least two extraneous variables that might arise in this research.

Identify one factor that they should deliberately hold constant throughout the investigation.

Aside from the number and age of participants, suggest one factor they should consider when selecting the sample.

Suggest how the researcher might select an appropriate sample for this research.

Describe one qualitative design they could use.

Describe how content analysis can be used to summarise data from a qualitative design

Describe any ethical issues that might be associated with this research and propose how these could be overcome when planning the research.

You advise the researchers to conduct an experiment which collects data from 500 year 12 students from one city private high school, two city government schools, and two smaller country high schools. Students are split into two groups. The students at the private school, and country high schools (Group A) are all required to delete their social media apps from their phone for two weeks. The students at the two city government schools are not required to delete their account but are encouraged to use it less. An "Emotion Scale Test" (EST) is conducted before the research to gather baseline data from all students, and is conducted again after one week, at the end of the research and again one month after the conclusion of the research.
The results showed that students who deleted their social media accounts for two weeks scored significantly higher on the Emotion Scale Test (maximum score 100)

	Emotion Scale Test	**Emotion Scale Test**
	Group A (No social Media)	**Group B** (Social Media allowed, but discouraged)
Pre-Test	56	58
One Week	51	54
Two Weeks	86	59
One Month Later	76	58
Mean Score		

Calculate the Mean Score for Group A and Group B and enter in the table above. Is this a useful descriptive statistic for this research? Justify your response.

Using the data from the table, plot a graph showing the dependent variable against the independent variable on the grid below. Include a title, labelled axes, and appropriate scales and units.

Provide a possible conclusion for this study.

Critically evaluate the procedures and outline the impact on the data. Explain any limitations in your conclusion and determine whether these results can be generalised to the research population.

Important note to teachers and students: the following pages are only intended as possible options and resources that may be helpful in teaching and assessing the SACE Stage 2 Psychology course.
The definitive documents are to be found on the SACE website:
https://www.sace.sa.edu.au/web/psychology/stage-2

Writing an Investigation Report

This information should be used in conjunction with the SACE Subject Outline practical requirements to help develop student skills in Deconstructing, Designing, Conducting and Writing a formal investigation report.

Introduction

A research investigation is a question that is asked for consideration or inquiry. Problems may be raised because of direct observation or may be prompted by discussion or research.

The investigation of a problem can take various forms. One is to employ scientific methods to collect data to formulate and justify a conclusion. This involves developing a valid procedure that uses scientific measures interpreting and analysing the results, and critically evaluating the evidence obtained in order to justify a conclusion.

The process used to determine the best way to investigate a research investigation is called Deconstruction. This involves breaking the research investigation down so that a range of aspects that could possibly affect the outcome of the Investigation can be explored, taken into account, and properly discussed. By deconstructing a topic, the most appropriate procedure to use to investigate it can then be designed, and conducted.

STEP ONE: DECONSTRUCTING THE TOPIC

There are three aspects of looking at and investigating a research investigation as follows:

- **Deconstructing** the problem
- **Designing** an investigation based on your findings
- **Conducting** the investigation and preparing a report of it.

It is usual to start with a particular 'Problem', or 'Question'.

The activity presented here only involves the theoretical exercise of Deconstructing the problem to develop your knowledge and skills of the deconstruction process. It is important however that this should be able to lead on to the Design and implementation of a Scientific Investigation.

With direction from your teacher, present a one-page Deconstruction of one of the following Problems:

- Does the size of a team affect the productivity of the team?
- Does explicitly teaching teamwork skills, enhance the completion of tasks within a team?
- Does bullying within a team impact the productivity within the team?
- Does groupthink occur within teams when there is a limited amount of time to complete a task?
- Does communicating face to face versus via digital communication enhance team wellbeing?

1. Research your chosen topic focusing particularly on the factor you are interested in investigating.
2. Explore factors that impact your chosen topic.
3. Consider the most appropriate research design (experimental, observational or qualitative) for investigating your topic.
4. Consider the most appropriate research methods that would be best suited for collecting data for your topic.
5. Explore factors such as population, sample, sampling techniques that might suit your investigation
6. Consider potential constant or confounding variables that need to be planned for.
7. Explore and address the ethical, cultural and safety risk factors involved in conducting your research
8. Select the features that will realistically be able to be achieved for your research

Brainstorm with others, to record questions and points whilst you consider options about formulating your ideas and what you might be able to test.

Evidence of Deconstruction may be presented in a number of ways, for example: Notes, a Concept map, a Table, Answers to directed questions or aspects or some other way.

Once you have completed your Deconstruction you may proceed to the next phase which is 'Designing your own Investigation'. A proposed outline of one way of proceeding is included on the following pages.

STEP TWO: DESIGNING YOUR OWN INVESTIGATION

An Investigation is a process that involves inquiry and exploration. Scientific investigation is the way scientists obtain evidence-based solutions to problems, or answers to questions about the world around us.

A scientific Investigation can be undertaken following an existing set of instructions, or one can be planned from the beginning and then carried out. The process used to put together and document an investigation of a problem is called Design. The Design of an investigation is best done following a process of Deconstruction.

To Design an Investigation of a research question for which the outcome is uncertain, use the following headings and dot-points as a guide:

JUSTIFICATION

It is important to include a rationale or justification of the procedure based on theoretical and safety considerations, pre-trials and other factors that should be included. In other words, students must justify their plan of action. It is recommended that this can be done for each section using, for example, text boxes or a different colour font.

- Deconstruct the problem
- Provide justification of choices made in the Design using annotations or another method.

VARIABLES

- Identify the independent variable (IV) to be explored and the dependent variable (DV).
- Make clear how the IV will be changed, and how many times.
- Include how the IV and DV will measured, and the units of measurement.
- List factors to be held constant and describe how and why they need to be held constant.
- List factors that may not be able to be held constant or controlled, state why not, and consider the potential impact of this on the data/investigation.

HYPOTHESIS OR RESEARCH QUESTION

- Provide a hypothesis expressed with a single IV and DV as a … If … then … statement. This needs to relate to the purpose of the Investigation. If using a qualitative research design, clearly state the research question, and justify why this hypothesis or question was chosen.

RESEARCH DESIGN AND METHOD

- Describe and justify the research design selected for the investigation (experimental, observational, or qualitative)
- Make clear the type and amount of data to be collected e.g., qualitative data (descriptive), quantitative data (numerical), objective or subjective, sample sizes, and averages.
- Detail how data will be collected that is reliable, and accurate.

OTHER CONSIDERATIONS

- Include a blank table to show the data to be collected and recorded.
- Provide a description of the expected results.
- Identify safety and/or ethical risks and describe how they will be managed.

Evidence of Design *may be presented in a number of ways. One example of a suggested layout that uses a combination of sub-headings and tables for different parts of the Design is shown below.*
Your teacher will provide further direction about what is required.

Research Investigation topic: .....

Variables

Independent variable .....

Dependent variable .....

Factors to be held constant

5 factors to be held constant	How the factors will be held constant	Why the factors need to be held constant

Factors that may not be able to be controlled

2 factors that cannot be controlled	Why the factors cannot be controlled	Potential effect on the data/ investigation

Hypothesis or Research Question

.....

.....

Research design

.....

.....

Research method

.....

.....

Ethical considerations / risks

Ethical considerations	Management

STEP THREE: CONDUCTING THE INVESTIGATION

Your teacher will set out guidelines, including ethical and safety considerations, about how this is to be achieved.

STEP FOUR: WRITING A RESEARCH INVESTIGATION REPORT

The requirements of the practical report are to be found in the SACE Subject Outline. In particular, the word count for the Introduction, Analysis of results, Evaluation of method/procedure and Conclusion should not exceed 1500 words. The Deconstruction and Design, including the method chosen and the justification of the plan of action must be a maximum of four sides of an A4 page and needs to be attached to the practical report.

For each investigation, students present an individual report.
The report may include:

Introduction
- introduction with relevant psychological concepts, and either a hypothesis and variables, or an investigable question

Method
- the method or process that was implemented
- identification and management of safety and/or ethical risks

Results
- Display the results using tables and graphs.
- Support data using sample calculations.
- Ensure the format of the tables and graph is consistent with conventions regarding titles, headings, and presenting data to two significant figures

Analysis
- Analyse the data to identify a trend or pattern (if any) and
- discuss the relationship between the independent and dependent variable using psychological information/theory.
- Linking results to concepts

Evaluation
- Evaluate the procedure and data to identify sources of uncertainty
- Assess the reliability, accuracy and validity of the results, by discussing sample size, sample representativeness, factors that cannot be controlled.

Conclusion
- Form and justify a conclusion that relates to the hypothesis or research question.
- Discuss any limitations of the conclusion based on the procedure and the results.

The report should be a maximum of 1500 words if written, or a maximum of 9 minutes for an oral presentation, or the equivalent in multimodal form.

Suggested formats for presentation of a practical investigation report include:
- a written report
- an oral presentation
- a multimodal product.

Only the following sections of the report are included in the word count:
- introduction
- analysis of results
- evaluation of procedures used in collection of the data in selected study
- conclusion and justification.

A sample Task Sheet for a Deconstruction and Design

A guide to approximately how many words for each section is given in brackets. The Purpose, Hypothesis, Results, Deconstruction, Design, and References sections are not in the word count. For the relevant Assessment Design Criteria see the ADC column.

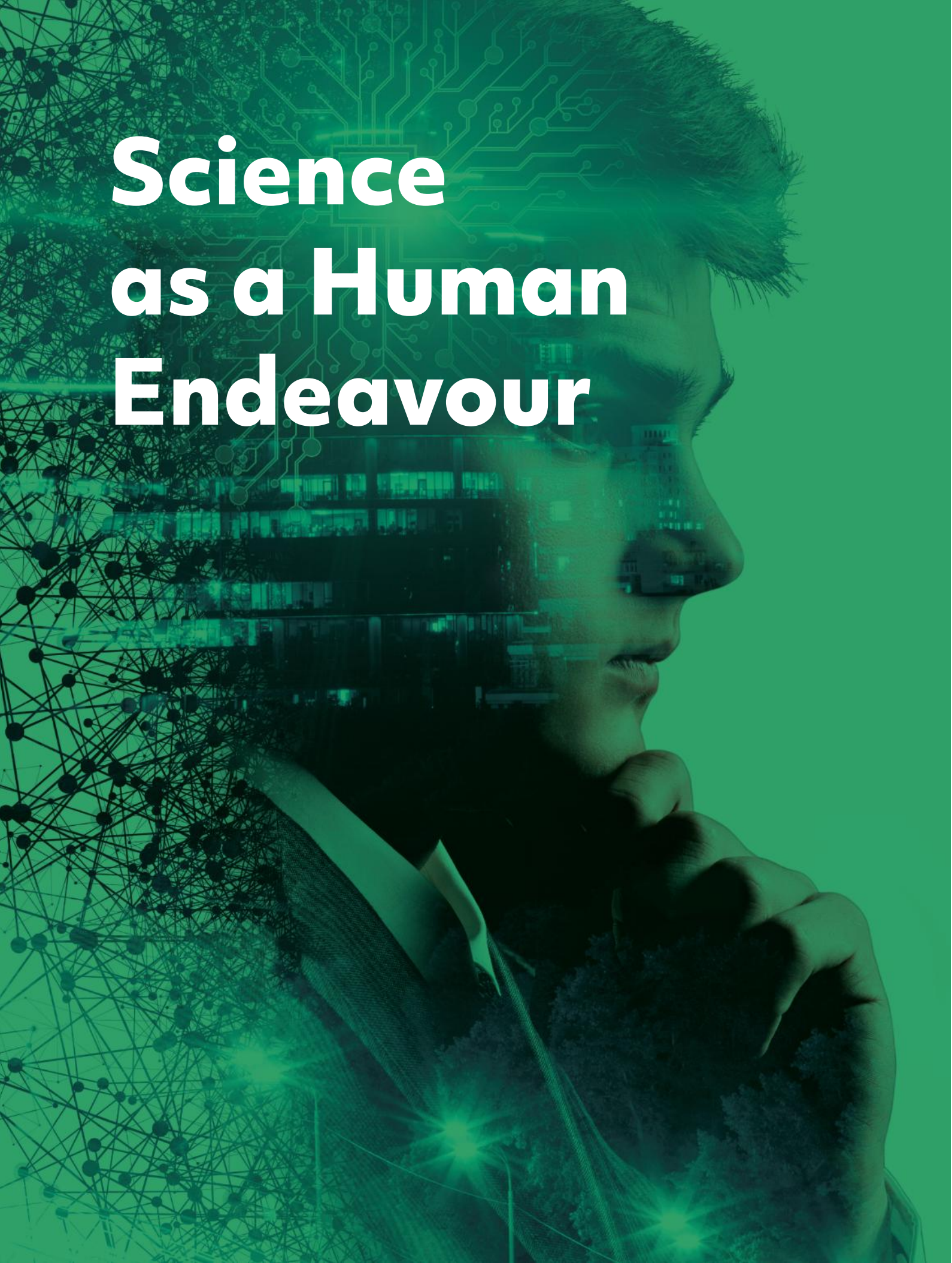
Note: the word count for Introduction, Analysis, Discussion and Conclusion in Stage 2 is a maximum 1500 words.

Section	Evidence	ADC
Deconstruct and Design proposal *(not included in the word count)*	An investigable question or hypothesis is formulated that relates to the purpose of the investigation. A method is designed that includes: • Aim of research • Research Hypothesis (Experiment) or Research question (Quantitative Observation, Focus Group) • Investigation/research Method – Experiment-Observational/Qualitative (Focus group or Delphi Technique • Explicit identification of the IV and DV • Sampling method • Research design – Repeated measures, Independent group design or matched pairs • Type of data collected (objective/subjective quantitative or qualitative, behavioural counts. Be explicit, for example objective quantitative, using heartrate • What will the data show, e.g., cause and effect relationship or correlational data • procedures to identify how to keep other factors constant • identification of factors that cannot be controlled • procedures to manage ethical and safety considerations. Be very clear about whether you are choosing to: make a comparison (which usually involves the calculation of averages and the plotting of column graphs), or look for the existence of a relationship, or analyse the qualitative data. Be very clear about how you intend to carry out your analysis. Ensure that your method of analysis will answer your research question. A rationale or justification for the details in the procedure, based on theoretical considerations, safety considerations, student pre-trials or other considerations, should be included. *Note: Evidence of Deconstruction outlining the Deconstruction process, the method chosen as most appropriate, and a justification of the plan of action, must be a maximum of 4 sides of an A4 page. This evidence must be attached to the practical report.*	IAE1
Introduction (~300 words)	• Introduce your topic, by explaining what it is and giving an example. Briefly discuss how it can influence people and why it is important that we study it. (It may be helpful to add a few sentences here to indicate what other research in this area has found). • Clearly state your research question (Qualitative methods), or hypothesis (experimental or observational) and weave it into the prose. • Clearly identify the independent and dependent variables and state whether each is subjective quantitative data or objective quantitative data. • Clearly outline (1) which data you will use to address the research question/ hypothesis, (2) how you will sort the data you need from the original data, (mean scored calculated and plotted to presented in graphs and (3) Which calculations you will carry out, e.g., mean, mode, median, SD. • State which tables and/or graphs you will use to answer your research question (or test your research hypothesis) e.g., a scatterplot will be used to present the mean	KA1

Results *Do not include raw data*	Tables • Any table(s) you use must have a title that clearly describes its purpose. • All rows and columns must be clearly labelled with appropriate units in brackets. • Numbers in the table should be presented to the appropriate number of decimal places, generally two. Graphs • The graph must have a title that clearly describes its purpose. • Large enough to be clear (about one third of page) • Graphs with labelled axes (with units), appropriate scales, an appropriate size, and in a format to suit the type of data.	IAE2
Analysis (~200 words)	The purpose of this section is to interpret the data and make conclusions about whether it answers the research question or support the hypothesis. • Be specific in identifying if the shows an in/decrease between the IV and DV • Trends in the data are identified and an explanation of these trends in terms of relevant concepts is provided.	IAE3
Evaluation (~700 words)	Strengths and Weaknesses in the Investigation. Headings for each sub section is not required, eg, reliability etc. Only the headings identified in each section of this guide should be used to reflect the reporting in a real-world Psychological investigation and Tertiary reports. • **Reliability** - does the test measures what it is supposed to each time it is used and in all circumstances? If standardised tests are used it is more likely to be highly reliable unless subject to random errors, eg poor measuring tools or social desirability factors. • **Random errors** - Could errors have been made in the recording of the data by participants themselves or in the collation of class data? • **Strengths and limitations** of the type of data collected. • **Validity (internal)** - does the measure used for the dependent variable measure what it is supposed to measure? **Remember that a measure can be reliable even though it is not valid, but a measure cannot be valid unless it is reliable** • Can the results be applied beyond the setting thus gathering the same results in a natural setting/situation (real life), thus questioning **Ecological validity**. E.g., measuring physiological responses to arousal in a lab vs participants wearing smart devices and noting when they are listening to music allowing the researcher to look back at the data collated from everyday life. • Sampling methods and limitations, eg, bias and representativeness thus ability to make generalisations – **External validity** • Discuss how effectively the research method was able to minimise extraneous variables (such as experimenter effects, participant variables, and situational variables).	IAE4

Evaluation (~700 words)	**Ethical Considerations** • Identify ethical guidelines that were adhered to. • Identify ethical guidelines that were not adhered to. - Confidentiality /Anonymity - Voluntary participation - Right to withdraw - Informed consent (role of any deception?) - Debriefing - Possible harm (Physical & Psychological) - Accurate reporting - Professional conduct *Important to note. For each weakness you identify, you will be required to make a recommendation to address this. If you only identify the weakness without making recommendations, you will limit your ability to meet some of the performance standards required in the Investigation.*	IAE4
Conclusion **(~300 words)**	• Has the investigation allowed you to answer the research question (state it) • Was the hypothesis (state it) accepted, partially accepted or the null hypothesis accepted (hypothesis rejected as no relationship can be established) • Summarise significant findings and or flaws if there are any • What is the usefulness of this research, eg, can it be used in the real world, if so, how? (Eg) Research can be used to educate people around reducing or increasing arousal levels such as students before a test or an athlete before a big game.	IAE3
Communication	• The correct format for the structure of a report is used. • Information is communicated clearly. • Write clearly so that the points that you make can be easily understood by the reader. • Avoid using the first person (e.g., I, we, us) or second person (e.g. you, yours). Preferably write in the third person (e.g., he, she, it, they). • Total word count should be 1500 words • Appropriate psychological terms and conventions are used. • External references (if used) are acknowledged appropriately.	KA4

Science as a Human Endeavour



SHE 1 **SCIENCE AS A HUMAN ENDEAVOUR**

Communication and Collaboration

- Science is a global enterprise that relies on clear communication, international conventions, and review and verification of results.
- Collaboration between psychologists and stakeholders progresses research, understanding and enterprise. It requires shared evidence from many sources in a multidisciplinary approach.

Development and Application

- Developments in research, enterprise and technology lead to advancements in psychological understanding.
- The application of psychological understanding can enable scientists to develop solutions, progress discoveries, design action, evaluate and respond to economic, social, cultural, and environmental and sustainable factors.

Influence and Impact

- Psychological knowledge and its application are both influenced by, and influences economic, sociocultural, religious, ecological, environmental, sustainable, ideological and political perspectives in a local, national and global context
- The use of psychological knowledge may impact through beneficial or unexpected consequences requiring monitoring, assessment, and evaluation of risk, through ethical considerations

2022 Subject Outline | Stage 2

The science as a human endeavour strand highlights science as a way of knowing and doing, and explores the purpose, use, and influence of science in society.

Society can influence Science, and Science can influence Society

SHE tasks are designed to be based on contemporary examples of psychology and reflect the interaction between science and society.

HOW SOCIETY IMPACTS SCIENTIFIC RESEARCH

For example, you might like to explore how changes in society are impacting what psychologists are currently researching. Consider changes to mental health research in the last 15 years around the change from researching depression to understanding the positive psychology elements of wellness. Consider how technological advancements in social media, working online, the impacts of Covid 19 are impacting what scientists are now researching to better understand how these societal changes are impacting mental health.

HOW SCIENTIFIC RESEARCH IMPACTS SOCIETY

You might like to seek out examples of contemporary research into new therapies, interventions, research topics impact on society. Teachers and students can look at psychology in practice and investigate examples of how research has led to unintended consequences, or new breakthroughs that have an impact on society.

Using cancer as an example

SOCIETY INFLUENCES SCIENCE	SCIENCE INFLUENCES SOCIETY
• There are lots of different types of cancer, and cancer research depends on funding. • Sometimes a particular type of cancer gets a lot of funding because it gets a lot of public attention. • A huge amount of money goes into this research – for example, society says breast cancer is really important so benefits from celebrity status, big names lead to big fundraising which in turn leads to a higher emphasis on research in this field. • Other types of cancer are more deadly – but get less money and less attention. • Society has therefore influenced science research.	• Scientific discoveries can make life better for those people with the disease • They can find a treatment and/or a cure. • This treatment can save lives, save emotional distress and influence positive mental health • There is an economic influence – costs to hospitals / employers / individuals, benefit to saving lives • Scientific research can influence education – we can teach society how to avoid / minimise / early diagnosis • The science findings have a wide ranging impact.

SHE – what you need to understand and be able to do

1. UNDERSTAND AND IDENTIFY

Students need to have an understanding of the key concepts, and what sits behind them and be able to recognise examples of science as a human endeavour when presented with an article, video or other stimulus material.

Advice for teachers and students: regularly search for and read articles, news stories, reports, psychology magazine stories, social media stories and have incidental conversations to become familiar at recognising the SHE concepts

2. ANALYSE AND EVALUATE

Students need to be able to analyse and evaluate the SHE concepts they have recognised. This is an examinable skill.

Advice for teachers and students: Find articles and other examples of where the SHE key concepts are demonstrated. To evaluate the SHE concepts explore the following questions: What went well in this research? What didn't work well? What is the value of the outcome of this investigation / research? Why did the study come up in the first place? Who has benefited from this research? Who has contributed to this research? What are the next steps to continue furthering this research?

3. COMPLETE A SHE INVESTIGATION TASK

Students need to be able to find relevant research and complete at least ONE SHE assessment task.

Advice for teachers and students: early in the year, practicing responding to the SHE tasks located in each of the topics in this workbook. Practice writing paragraphs about articles regularly as this is what is required in the investigation task, and the exam.

The interaction between psychologists and stakeholders

There are a number of different stakeholders in society all of who benefit from the research that scientists undertake in the field of psychology, and all of whom influence and contribute to the research that scientists undertake.

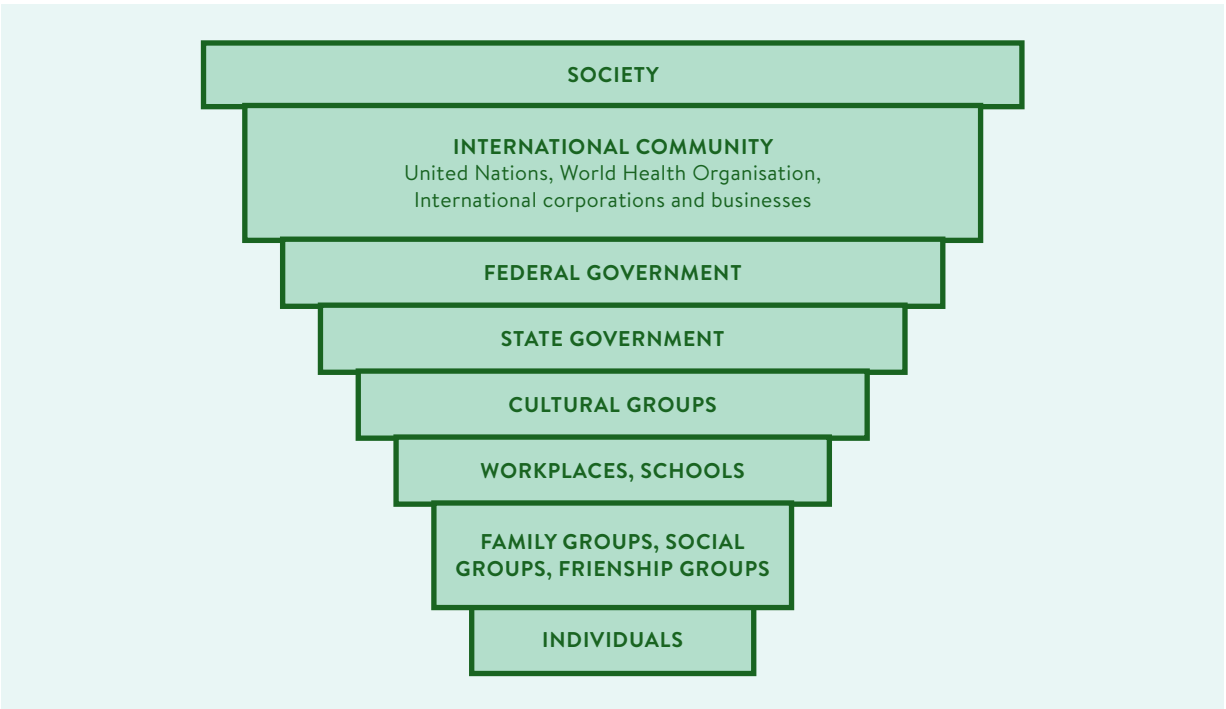


Figure 5.1.1 Stakeholder groups to consider when exploring SHE investigations.

CHECKING FOR UNDERSTANDING

Consider the topic of social media addiction. This is a current topic in the field of psychological research, and is particularly an issue for certain groups within society. **Use the table below to identify how some of the key stakeholders may influence and have an impact on scientific research in this field.** Write a brief paragraph to explain your thinking, whilst referring to SHE concepts in your response.

For example. If teenagers are showing higher levels of mental health disorders as a result of social media addictions, this may have a social impact, as this will interfere with friendships, relationships. It may also have an economic impact if teenagers do not finish school as a result of their mental health, and therefore struggle to become employed. This is a topic that scientists would be interested in researching, to try and ***develop a solution*** *to this problem. Conducting research and influencing government, may see legislation in this area aimed at protecting young people when they are unable to protect themselves.*

STAKEHOLDERS		INFLUENCE AND IMPACT
Society	Social media addiction	Social impacts
International Community		Economic impacts
Federal Government		Cultural impacts
State Governments		Ethical impacts
Cultural Groups		Political impacts
Workplaces		Environmental impacts
Schools		
Family, Social Groups, Friendships / relationships		
Individuals		

COMMUNICATION AND COLLABORATION	DEVELOPMENT AND APPLICATION	INFLUENCE AND IMPACT
Acknowledgement that this psychology topic is of interest on a global scale and relies on clear communication regarding reviewing and verifying results. A discussion of the contribution of any individuals, teams or organisations that were involved in the development of the topic being discussed.	A discussion about how new research and / or technologies improved data collection and analysis, revealing new evidence that helped develop solutions and/or recommendations A discussion about how the research progressed a discovery in response to an economic, social, cultural, environmental or sustainable factor.	A discussion of how advances in psychological understanding are **influenced by** economic, sociocultural, religious, ecological, environmental, sustainable, ideological and political perspectives in a local, national and global context.
	A discussion of how the research informs public debate, or the psychology is linked to public debate. Where new factors or limited data exist, limitations result. *Describe what the debate is and any limitations.*	A discussion of how advances in psychological understanding **influence other perspectives** such as economic, sociocultural, religious, ecological, environmental, sustainable, ideological and political perspectives in a local, national and global context.
Science requires communication, which uses international conventions, and the review and verification of results. Describe who is communicating and collaborating. Think of all the organisations, from school groups to the United Nations, universities, action groups, professional organisations, local organisations, community groups, etc who are involved with the issue. Think of individual scientists and teams of scientists. *Describe how they are communicating results and working together to add to knowledge.*	Application of our knowledge may also have consequences – beneficial or unexpected. All applications require monitoring and evaluation of risk and can provide further opportunities. Multiple lines of evidence come from a range of needs and values. *Describe these.*	A discussion of how psychological knowledge may impact people in a beneficial way, or create unexpected consequences requiring monitoring, assessment and evaluation of risk, through ethical considerations.
	Application: Our scientific knowledge, understanding and inquiry can and has led to the development of solutions and discoveries. From this, actions can occur. These actions have social, economic, cultural, ethical, political and environmental impacts. Describe the impacts and the risk.	**Social:** Dealing with human beings in their relations with each other. Think of friends, partners, children, people at work, medical staff.
	The development of scientific theories and models requires a wide range of evidence from many sources and disciplines (e.g. psychology, sociology, philosophy, biology, statistics, etc.) *Describe the development of any new theories and techniques looking at all the evidence from as many sources as possible over time. You could use a timeline to show events and setbacks. Include evidence of progress, ambiguities, disagreements and uncertainties.*	**Economic:** Having to do with the production, distribution and consumption pf goods and services. Think of research companies, production and use of biological materials and processes. **Cultural:** Having to do with the customs, arts and conveniences of a nation or people at a time. Think about what attitudes are communally held about things and the ways in which people perceive and go about things.
International collaboration is often required. Think of all the international organisations involved, any conventions, rules, conferences, etc. The publication of science journals which are all online, international conferences and agreements involving governments and the United Nations are all part of this. *Describe who and what organisations are collaborating, and what benefits or issues arise from international collaboration.*	New technologies improve the way scientists perform procedures and collect data for analysis. This new evidence can therefore replace old theories, models and processes or modify them. *Describe the new technologies and the impact they are having on old ways of seeing or doing. Who or what is resisting change?*	Ethical = Having to do with standards of right and wrong: of ethics and morals. Moral conduct, duty and judgement. Think about forcing people to do things or looking at what harm might be caused by an action. Is harm to some better for all of us?
	Advances in one field can influence and be influenced by other areas. Science impacts on the development of technologies and engineering of products and is in turn influenced by the need for technological advance. *Describe the influences of the fields involved*	Political = Having to do with citizens or government. The management of political business, policies, laws or methods. This is about who makes decisions and follows them up in society, and any legal applications involved.
	Our knowledge can be used to offer explanations and make reliable predictions. *Describe any predictions. Results of the research may result in ambiguity or uncertainty. How do psychologists develop new understanding and insights and produce innovative solutions. What recommendations do students come up with to explore their own solutions to current and future problems and challenges.*	Environmental = All of the surrounding things, conditions and influences affecting the growth of living things. Think of all abiotic and biotic factors and how they interact.

Collaborating with researchers in other fields

In psychology, as with other research fields, working with other people is essential for the completion of many goals in the pursuit of furthering our understanding people, and their interactions with others.

As **technology** is progressing, so is the depth of knowledge that humans are developing. Innovations in the range of scientific tools that used to understand the world around us means that research in the field of psychology is able to benefit.

Innovations in psychology can include new ways of conducting experiments and investigations, improving existing research methods and utilising complex machines such as fMRI machines and PET scanners.

Neuroscience is an exciting fast-developing science that is largely interdisciplinary. It relies on psychologists to collaborate with neuroscientists who work in fields such as neuroaestehetics (the study of the experience and perception of art) and neuroeconomics (understanding decision making in an economic context). **Collaboration** and effective **communication** enables research such as the following to progress.

How does emotion affect the way people process things like music and art in the mind?

How are the levels of dopamine in our bodies affected by alcohol and marijuana use?

What are the negative effects on human memory due to people's reliance on internet searches?

What role does emotion play when it comes to spending money?

Example requirements for a SHE Task

Choose article(s) / video(s) that demonstrates a link between a psychology concept of interest and science as a human endeavour. You need to prepare a report or presentation that explains the psychology concepts involved, showing how it relates to at least one SHE key concept.

ASSESSMENT GUIDELINES

Your presentation should include the following sections:

INTRODUCTION

Who, what, when, where, why (solving a problem, new tech developments etc)

CONTEXT SPECIFIC SCIENCE

Explain the scientific concepts you are looking at researching? Briefly describe the key elements of the research.

SHE CONCEPT(S)

Explain, using examples, how this study links to one or more of the 3 science as a human endeavour key concepts (ensure that you refer to the elaborations in this step, rather than just referring to the titles of the key concepts)

IMPACT ON SOCIETAL GROUPS

Explain the impacts / potential impacts of this research on different interest groups / stakeholders? (e.g. further development, effect on quality of life, environmental implications, economic impact, intrinsic interest , etc.)

CONCLUSION

A conclusion with justification. Suggest improvements/further research that can be done in this field.

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TOPIC 1

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Glossary

abnormal behaviour: behavior that is atypical or statistically uncommon within a particular culture or that is maladaptive or detrimental to an individual or to those around that individual.

acceptance: a favorable attitude toward an idea, situation, person, or group. In the context of psychotherapy and counseling, it is the receptive, nonjudgmental attitude of therapists or counselors, which conveys an implicit respect and regard for their clients as individuals.

acquisition: the initial stage of the learning or conditioning process. In this stage, some response is being associated with a stimulus to the point where we can say the organism (person, animal, etc.) has 'acquired' the response. During this stage, the response is strengthened (reinforced) so that it is truly 'learned'.

actualising tendency: the tendency to work towards making something real in action.

acute stress: a physiological response to stress. Also called hyperarousal. See also fight-or-flight response. Symptoms of acute stress include exaggerated startle response, disturbed sleep, difficulty in concentrating or remembering, and excessive vigilance.

adrenaline: a hormone secreted in large amounts when an individual is stimulated by fear, anxiety, or a similar stress-related reaction. As a neurotransmitter, it increases the heart rate and force of heart contractions, relaxes bronchial and intestinal smooth muscle, and effects blood pressure.

advantages: any state, circumstance, opportunity, or means specially favorable to success, interest, or any desired end.

addiction: is a physical or psychological need to do, take or use something, to the point where it could be harmful to you.

affective component: (of an attitude) refers to the emotional reactions or feelings an individual has towards an object, person, event or issue.

agreeableness: the tendency to act in a cooperative, unselfish manner, construed as one end of a dimension of individual differences (agreeableness vs. disagreeableness) in the Big Five personality model.

ambivalence: refers to the idea that one can have both positive and negative responses towards the same thing.

anal expulsive: The term anal-expulsive refers to a time during the anal stage of development (which lasts from about 18 months to three or four years old) in which the focus of pleasure is the anus and children find sensual pleasure in having bowel movements (expelling feces). This is the opposite of anal-retentive in which children retain feces (they resist having bowel movements).

anal stage: typically occurring during the 2nd year of life, in which the child's interest and sexual pleasure are focused on the expulsion and retention of feces and the sadistic instinct is linked to the desire to both possess and destroy the object. Fixation during this stage results in an anal personality.

anal-retentive: a person who is excessively orderly and fussy (supposedly owing to conflict over toilet-training in infancy).

anal personality: a pattern of personality traits believed to stem from the anal stage of psychosexual development, when defecation is a primary source of pleasure. Special satisfaction from retention of the feces will result in an adult anal-retentive personality, marked by frugality, obstinacy, and orderliness, whereas fixation on expelling feces will produce an aggressive and disorderly anal-expulsive personality.

anonymity: a principle of research ethics stating that the identity of a study participant should remain unknown.

acquisition: refers to the first stages of learning when a response is established. In classical conditioning, it refers to the period when the stimulus comes to evoke the conditioned response.

anxiety disorders: is a medical condition characterised by persistent, excessive worry.

association: a connection or relationship between two items (e.g., ideas, events, feelings) with the result that experiencing the first item activates a representation of the second. Associations are fundamental to learning theory and behaviorism.

assertiveness training: is based on the principle that we all have a right to express our thoughts, feelings, and needs to others, as long as we do so in a respectful way.

associate (in classical conditioning theory) Associative learning is a style of learning that happens when two unrelated elements (for example, objects, sights, sounds, ideas, and/or behaviours) become connected in our brains through a process known as conditioning.

attitude: an evaluation a person makes about an object, person, group, event or issue.

attitude accessibility: refers to how easily an attitude comes to mind.

attitude specificity: refers to the degree that an attitude can relate to a general concept or to a specific aspect of the concept.

attitude strength: The stronger the attitude the more likely it should affect behavior and less susceptible to change. Attitude strength involves: Importance / personal relevance refers to how significant the attitude is for the person and relates to self-interest, social identification and value.

autonomic nervous system: sends information between the brain and body to control basic life functions such as heartbeat, digestion, respiration and response to stress.

aversive punishment: also known as positive punishment. Refers to the concept of an unpleasant stimulus being presented immediately before or after a behaviour with the intention of reducing the behaviour.

bar graph: shows how frequently a particular category(s) of data occurs by representing the data using a series of discrete (separate) bars or rectangles.

behavioural assessment: is a tool from the field of psychology that is used for observing, describing, explaining and predicting behaviour. Behavioural assessments are now being used outside the clinical settings too, especially in educational and corporate sectors, considering their insightful and predictive nature.

behavioural component: (of an attitude) refers to the actions that we do in response to an object.

behavioural counts: Behavioral counts is a widely used method in behavioral pre-observations. Unlike other oral methods of behavioral assessment, most of which rely on people's perceptions of behavior, behavioral counts involves watching and recording the behavior of a person in typical environments.

behaviour modification: the use of basic learning techniques, such as conditioning, biofeedback, reinforcement or aversion therapy, to alter behaviour.

behavioural observation: the systematic recording of behavior by an external observer. The systematic nature of behavioral observation is characterized by detailed procedures designed to collect reliable and valid data on client behavior and the factors that control it.

bidirectional: The relationship between social cognition and behaviour is bidirectional. In particular, attitudes influence behaviour, but behaviour also influences attitudes.

biological factors: any physical, chemical, genetic, or neurological condition associated with psychological disturbances

biological (biomedical) model: is the current dominating model of illness used in most Western healthcare settings, and is built from the perception that a state of health is defined purely in the absence of illness.

biopsychosocial approach: systematic integration of biological, psychological, and social approaches to the study of mental health and specific mental disorders. [coined by U.S. psychiatrist George L. Engel (1913–1999)].

Borderline personality disorder (BPD): in *DSM–IV–TR* and *DSM–5*, a personality disorder characterized by a long-standing pattern of instability in mood, interpersonal relationships, and self-image that is severe enough to cause extreme distress or interfere with social and occupational functioning.

bullying: persistent threatening and aggressive physical behaviour or verbal abuse directed toward other people, especially those who are younger, smaller, weaker, or in some other situation of relative disadvantage. Cyberbullying is verbally threatening, or harassing behaviour conducted through such electronic technology as cell phones, e-mail, and text messaging.

burnout: is a state of emotional, physical, and mental exhaustion caused by excessive and prolonged stress.

Cattell's 16PF (personality factor): an approach to personality description based on the identification of traits through factor analysis and their classification into surface traits and the 16 source traits that underlie them.

causation (causal link; cause and effect) the relationship between cause and effect; does the IV cause a change in the DV? If so causation can be determined.

central route of persuasion: makes the audience of the message think carefully about the message and evaluate it

chronic stress: the physiological or psychological response to a prolonged internal or external stressful event (i.e., a stressor). The stressor need not remain physically present to have its effects; recollections of it can substitute for its presence and sustain chronic stress.

circadian rhythm: any periodic variation in physiological or behavioral activity that repeats at approximately 24-hour intervals, such as the sleep–wake cycle.

classical conditioning: a process of behaviour modification by which a subject comes to respond in a desired manner to a previously neutral stimulus that has been repeatedly presented along with an unconditioned stimulus that elicits the desired response.

clean up theory: of sleep states that the brain uses sleep to wash away the waste toxins built up during a hard day›s thinking,

clinical interview: a face-to-face encounter between a mental health professional and a patient in which the former observes the latter and gathers data about the person's behavior, attitudes, current situation, personality, and life history.

cognition: the mental process of knowing, including aspects such as awareness, perception, reasoning and judgement

cognitive behaviour therapy: a combination of cognitive therapy (which involves changing thoughts) and behaviour therapy (which involves changing behaviour)

cognitive component: (of an attitude) refers to the beliefs we have about an object, person, group, event or issue

cognitive dissonance theory: suggests that if a person persists in behaving in a way that causes cognitive discomfort, the person tends to change their beliefs or attitudes to the behaviour

cognitive behavioural therapy: a form of psychotherapy that integrates theories of cognition and learning with treatment techniques derived from cognitive therapy and behavior therapy. CBT assumes that cognitive, emotional, and behavioral variables are functionally interrelated. Treatment is aimed at identifying and modifying the client's maladaptive thought processes and problematic behaviors through cognitive restructuring and behavioral techniques to achieve change.

commercial organisation: A commercial organisation is any business that sells goods or services for the purpose of making a profit.

compliance: a change in a person's behavior in response to a direct request.

conscious: in the classical psychoanalytic theory of Sigmund Freud, the region of the psyche that contains thoughts, feelings, perceptions, and other aspects of mental life currently present in awareness.

conclusion: a final decision or judgement, an opinion or decision that is formed after a period of thought or research.

conditioned response: the learned response to a conditioned stimulus.

conditioned stimulus: a formerly neutral stimulus that, after association with an unconditioned stimulus, comes to produce a conditioned response.

constant variable: In a science experiment, the controlled or constant variable is a variable that does not change.

confidentiality: a principle of professional ethics requiring providers of mental health care or medical care to limit the disclosure of a patient's identity, his or her condition or treatment, and any data entrusted to professionals during assessment, diagnosis, and treatment.

confirmation bias: a tendency for a person to search for information that confirms their preconceptions.

conflict management: is the practice of being able to identify and handle conflicts sensibly, fairly, and efficiently.

conflict resolution: the reduction of discord and friction between individuals or groups.

conformity: the adjustment of one's opinions, judgments, or actions so that they become more consistent with (a) the opinions, judgments, or actions of other people or (b) the normative standards of a social group or situation.

confounding variables: A confounding variable is a third variable that influences both the independent and dependent variables.

congruence: a match between psychological attributes and behavior.

conscientiousness: the tendency to be organized, responsible, and hardworking, construed as one end of a dimension of individual differences (conscientiousness vs. lack of direction) in the Big Five personality model.

content analysis: a systematic, quantitative study of verbally communicated material (e.g., articles, speeches, films) by determining the frequency of specific ideas, concepts, or terms.

contiguity: the principle that for learning to occur, the response must occur in the presence of, or very soon after, a stimulus is presented.

contingent: the principle that learning will occur only if one event appears to be dependent on or conditioned by something else.

contingency: the extent to which knowledge of one event reduces uncertainty about another.

contingency theory: (of leadership) supposes that a leader's effectiveness is contingent on whether or not their leadership style suits a particular situation.

continuous reinforcement: a schedule of reinforcing every instance of the target behaviour.

control group: the group in an experiment who is not exposed to the independent variable.

correlation: the degree of a relationship (usually linear) between two variables, which may be quantified as a correlation coefficient. A correlation may be positive or negative.

correlational studies: a type of study in which relationships between variables are simply observed without any control over the setting in which those relationships occur or any manipulation by the researcher.

cortisol: the major adrenal hormone, which stimulates conversion of proteins to carbohydrates, raises blood sugar levels and promotes glycogen storage in the liver.

cross-cultural approach: a research method in which specific social practices, such as courtship behavior, child-rearing practices, or therapeutic attitudes and techniques, are studied and compared across a number of different cultures. Also called cross-cultural method.

cross sectional studies: a research design in which individuals, typically of different ages or developmental levels, are compared at a single point in time.

cultural bias: the tendency to interpret and judge phenomena in terms of the distinctive values, beliefs, and other characteristics of the society or community to which one belongs.

culturally constructed: what is considered normal or abnormal, healthy or unhealthy, functional or dysfunctional depends on the cultural context.

culturally relativism: the way that culture defines our society, our differences and our similarities. Cultural relativism refers to not judging a culture to our own standards of what is right or wrong, strange or normal. Instead, we should try to understand cultural practices of other groups in its own cultural context.

data: the evidence that will form the results of a research study.

deception: any distortion of or withholding of fact with the purpose of misleading others. For example, a researcher who has not disclosed the true purpose of an experiment to a participant has engaged in deception.

defence mechanism: It is an unconscious procedure for the mind to protect us from being consciously aware of thoughts or feelings that are too difficult to tolerate. Doing this allows us to reduce anxiety that is caused by the unconscious thought or feeling.

dehumanized: is the perspective that certain people should be denied uniquely human rights and specific out-groups are therefore denied the privileges, activities

deindividuation: an experiential state characterized by loss of self-awareness, altered perceptions, and a reduction of inner restraints that results in the performance of unusual and sometimes antisocial behavior. It can be caused by a number of factors, such as a sense of anonymity or submersion in a group.

delphi technique: a research method that uses self- administered questionnaires to obtain the opinions of experts in a field of interest. It does not require the experts to be together in the same place.

dependent variable: the variable that is used to observe and measure the effects of the independent variable descriptive statistics: statistics that are used to organise and describe data so they can be interpreted

depression: is a mood disorder that can affect a person's daily life. It may be described as feelings of sadness, loss, or anger.

descriptive statistics: procedures for depicting the main aspects of sample data, without necessarily inferring to a larger population. Descriptive statistics usually include the mean, median, and mode to indicate central tendency, as well as the range and standard deviation that reveal how widely spread the scores are within the sample. Descriptive statistics could also include charts and graphs such as a frequency distribution or histogram, among others.

diagnosis: the act or process of identifying or determining the nature and cause of a disease or injury through evaluation of patient history, examination and review of laboratory data

diathesis-stress model: the theory that mental and physical disorders develop from a genetic or biological predisposition for that illness (diathesis) combined with stressful conditions that play a precipitating or facilitating role.

discrimination: the unjust or prejudicial treatment of different categories of people, especially on the grounds of race, age, sex, or disability.

dispositional factors: (also known as Internal Factors) are individual characteristics that influence behavior and actions in a person. Things like individual personality traits, temperament, and genetics are all dispositional factors.

direct experience: the process of acquiring knowledge by fully and directly participating in an activity.

disadvantages: an unfavorable circumstance or condition that reduces the chances of success or effectiveness. "a major disadvantage is the limited nature of the data".

distress: the negative stress response, often involving negative affect and physiological reactivity: a type of stress that results from being overwhelmed by demands, losses, or perceived threats.

door-in-the face technique: is a compliance method whereby the persuader attempts to convince the respondent to comply by making a large request that the respondent will most likely turn down.

dopamine pathway: neuronal connections in which dopamine travels to areas of the brain and body to convey important information such as executive thinking, cognition, feelings of reward and pleasure, and voluntary motor movements.

DSM-V: is the standard classification of mental disorders used by mental health professionals in the United States.

ecological validity: the degree to which results obtained from research or experimentation are representative of conditions in the wider world.

ego: in psychoanalytic theory, the component of the personality that deals with the external world and its practical demands. More specifically, the ego enables the individual to perceive, reason, solve problems, test reality, and adjust the instinctual impulses of the id to the demands of the superego.

electra complex: the female counterpart of the Oedipus complex, involving the daughter's love for her father, jealousy toward the mother, and blame of the mother for depriving her of a penis.

electroconvulsive therapy (ECT): Electroconvulsive therapy (ECT) is a procedure, done under general anesthesia, in which small electric currents are passed through the brain, intentionally triggering a brief seizure. ECT seems to cause changes in brain chemistry that can quickly reverse symptoms of certain mental health conditions.

emotion: a difficult concept to define; emotion is a response by a whole organism, involving physical arousal, expressive behaviours and conscious experience.

emotion-focused coping strategies: is a type of stress management that attempts to reduce negative emotional responses associated with stress.

empathy: understanding a person from his or her frame of reference rather than one's own, or vicariously experiencing that person's feelings, perceptions, and thoughts.

empirical testing: is a research method that employs direct and indirect observation and experience a set of procedures, guidelines, assumptions, and attitudes required for the organized and systematic collection, interpretation, and verification of data and the discovery of reproducible evidence, enabling laws and principles to be stated or modified.

ethical considerations: standards that guide individuals to identify good, desirable or acceptable conduct (behaviour).

ethnicity: a social categorization based on an individual's membership in or identification with a particular cultural or ethnic group.

ethnocentrism: the tendency, often unintentional, to base perceptions and understandings of other groups or cultures on one's own.

eurocentric: is a worldview that is centered on Western civilisation or a biased view that favours it over non-Western civilisations.

eustress: the positive stress response, involving optimal levels of stimulation: a type of stress that results from challenging but attainable and enjoyable or worthwhile tasks (e.g., participating in an athletic event, giving a speech). It has a beneficial effect by generating a sense of fulfillment or achievement and facilitating growth, development, mastery, and high levels of performance.

evolutionary theory: also known as the adaptive theory of sleep, suggests that periods of activity and inactivity evolved as a means of conserving energy.

experimental conditions: an experimental design in which the same participants are exposed to different variables.

experimental design: an investigative design used to test whether one variable influence or causes a change in another variable. The IV is directly manipulated and participants are randomly allocated into groups unless a repeated measures design is utilized.

experimental group: the group of participants who were exposed to the independent variable.

experimenter effect: a type of extraneous variable involving personal characteristics of the experimenter and their behaviour that may affect the way research participants respond in an experiment.

external factors: such as family, peers, school and community impact resilience. We have little control over external factors.

external validity: whether the results obtained in a laboratory experiment are valid in the 'real world'.

extinction: a reduction or loss in the strength or rate of a conditioned response when the unconditioned stimulus or reinforcement is withheld.

Extraversion: one of the elements of the Big Five and five-factor personality models, characterized by an orientation of one's interests and energies toward the outer world of people and things rather than the inner world of subjective experience. Extraversion is a broad personality trait and, like introversion, exists on a continuum of attitudes and behaviors. Extraverts are relatively outgoing, gregarious, sociable, and openly expressive. Extraversion is also one of the three personality dimensions in Eysenck's dimensions.

extraneous variable: any variable, apart from the independent variable, that can cause a change in the dependent variable and therefore affect the results of an experiment in an unwanted way.

Eysenck Personality inventory: a self-report personality test for use with adolescents and adults. It originally comprised 57 yes–no questions designed to measure two of Eysenck's dimensions—extraversion and neuroticism—and included a Lie scale intended to detect response distortion.

Eysenck Personality Questionnaire (**EPQ**), the most recent version of which (the **EPQ–R**) includes 90 questions and measures the additional personality dimension of psychoticism.

factor analysis: is a multivariate statistical technique for data reduction. It has many applications in psychology. In this technique, several variables are reduced to few latent variables for explaining group characteristics. Factor analysis technique is used for both explorative and confirmative studies.

fight-or-flight response: a reaction to the perception of danger. It involves the release of neurotransmitters, such as adrenaline, to activate the body and mind for survival.

fixated (fixation): in psychoanalytic theory, the persistence of an early stage of psychosexual development or the inappropriate attachment to an early psychosexual object or mode of gratification, such as anal or oral activity; this fixation limits the person's ability to negotiate the tasks of later psychosexual stages

fixed interval schedule: an operant conditioning reinforcement schedule where an organism will be reinforced for a response only after a fixed time interval.

fixed ratio schedule: an operant conditioning reinforcement schedule where an organism must make a certain number of operant responses in order to receive reinforcement.

focus group: a group interview technique that obtains data through discussion between research participants in a group setting. An important feature of the focus group method is the use of group interaction.

foot in the door: The foot in the door technique is a compliance tactic that assumes agreeing to a small request increases the likelihood of agreeing to a second, larger request.

frequency distribution: a way of organising data to show how often a value or measure occurs in a set of data.

generalisation: the process of deriving a concept, judgment, principle, or theory from a limited number of specific cases and applying it more widely, often to an entire class of objects, events, or people beyond the particular study.

general adaptation syndrome: a term coined by Selye to describe how the body deals with stress over an extended period. Consists of three phases: alarm, resistance and exhaustion.

genetics: the study of heredity and the variation of inherited characteristics.

genital stage: the final stage of psychosexual development, ideally reached in puberty, when the Oedipus complex has been fully resolved and erotic interest and activity are focused on intercourse with a sexual partner.

government organisation: or Public agency, is often a government appointed group, it can be permanent or semi-permanent organisation and is funded by the government.

graph: a pictorial representation of data.

group think: the practice of thinking or making decisions as a group, resulting typically in unchallenged, poor-quality decision-making.

hallucination: a profound distortion in a person's perception, typically accompanied by a powerful sense of reality. This may be a sensory experience in which a person can see, hear, smell, taste or feel something that is not there.

harm reduction: an approach designed to reduce the adverse effects of risky behaviors (e.g., alcohol use, drug use, indiscriminate sexual activity), rather than to eliminate the behaviors altogether.

HEXACO-PIR: model of personality structure summarizes human personality characteristics in terms of six dimensions, or factors: **Honesty**-Humility (H), Emotionality (E), Extraversion (X), Agreeableness (A), Conscientiousness (C), and Openness to Experience (O).

high self-monitors: High self-monitors are people who more readily modify the way they present themselves in a social setting in response to social cues. They are concerned with how they appear to the outside world regardless of their internal feelings or beliefs.

high variability: when scores are widely spread from the mean for the set of scores.

histogram: shows the frequency with which data occur, but unlike a bar graph, bars (or rectangles) touch.

hormone: a substance that is released into the blood- stream and acts as a chemical messenger triggering activity elsewhere in the body.

humanistic approach: a perspective of psychology that emphasises looking at the whole individual and stresses concepts such as free will, self-efficacy, and self-actualization. Rather than concentrating on dysfunction, humanistic psychology strives to help people fulfill their potential and maximize their well-being.

hypothalamus: part of the brain with primary control of the autonomic (involuntary) functions of the body. It also helps integrate autonomic activity into appropriate responses to internal and external stimuli. Additionally, it is involved in appetite, thirst, sleep, and sexuality.

hypothesis: a testable prediction about the relationship between at least two events, characteristics or variables.

id: in psychoanalytic theory, the component of the personality that contains the instinctual, biological drives that supply the psyche with its basic energy or libido. Sigmund Freud conceived of the id as the most primitive component of the personality, located in the deepest level of the unconscious; it has no inner organisation and operates in obedience to the pleasure principle.

ideal self: in models of self-concept, a mental representation of an exemplary set of psychological attributes that one strives or wishes to possess.

identification: the process of associating the self closely with other individuals and their characteristics or views. In psychoanalytic theory, a defense mechanism in which the individual incorporates aspects of his or her objects inside the ego to alleviate the anxiety.

implicit association test: introduced in 1998 in which participants perform a series of categorization tasks on a computer for a set of words representing an attitude object.

impression management: (also referred to as self- presentation) the process by which people attempt to manage the impression of themselves that they present to others.

independent variable: the variable that the experimenter can manipulate or vary in some way.

indirect experience: an experience through which we acquire the learning outcome without firsthand experience. it makes use of direct experience of others.

information consolidation theory: of sleep is based on cognitive research and suggests that people sleep in order to process information that has been acquired during the day. In addition to processing information from the day prior, this theory also argues that sleep allows the brain to prepare for the day to come.

information processing theory: is the approach to the study of cognitive development. The theory is based on the idea that humans process the information they receive, rather than merely responding to stimuli.

informational social influence is where a person conforms because they have a desire to be right and look to others who they believe may have more information. This type of conformity occurs when a person is unsure of a situation or lacks knowledge and is associated with internalization.

informed consent: a person's voluntary agreement to participate in a procedure on the basis of his or her understanding of its nature, its potential benefits and possible risks, and available alternatives.

intelligence test: an individually administered test used to determine a person's level of intelligence by measuring his or her ability to solve problems, form concepts, reason, acquire detail, and perform other intellectual tasks. It comprises mental, verbal, and performance tasks of graded difficulty that have been standardized by use on a representative sample of the population.

internalisation: the nonconscious mental process by which the characteristics, beliefs, feelings, or attitudes of other individuals or groups are assimilated into the self and adopted as one's own.

internalised stigma: refers to the process in which a person cognitively or emotionally absorbs negative messages or stereotypes that they have heard about and comes to believe them and apply them to him/herself.

internal factors of resilience: attitudes, perceptions, and behaviors make up internal factors. People have total control over these factors. Making a conscious effort to strengthen these factors will increase resiliency and emotional/mental health.

internal validity: the degree to which a study or experiment is free from flaws in its internal structure and its results can therefore be taken to represent the true nature of the phenomenon. In other words, internal validity pertains to the soundness of results obtained within the controlled conditions of a particular study, specifically with respect to whether one can draw reasonable conclusions about cause-and-effect relationships among variables.

interview: face-to-face discussion between a researcher and an individual in order to obtain information from the individual.

introversion: orientation toward the internal private world of oneself and one's inner thoughts and feelings, rather than toward the outer world of people and things. Introversion is a broad personality trait and, like extraversion, exists on a continuum of attitudes and behaviors. Introverts are relatively more withdrawn, retiring, reserved, quiet, and deliberate; they may tend to mute or guard expression of positive affect, adopt more skeptical views or positions, and prefer to work independently.

Intuition: Intuitive people live in the future and are immersed in the world of possibilities. They process information through patterns and impressions. Intuitive people value inspiration and imagination. They gather knowledge by reading between the lines. Their abstract nature attracts them toward deep ideas and concepts. They see the "big picture".

inquiry question: inquiry research questions seek to explore or describe phenomena. They may include only one concept, though many include more than one. Instead of asking how one variable causes change in another, we are instead trying to understand the *experiences*, *understandings*, and *meanings* that people have about the concepts in our research question.

jet lag: when the SCN recognises the time of day to be different from what external cues tell us. It is due to travelling through several time zones.

justification: the action of showing something to be right or reasonable. Research justification refers to the rationale for the research, or the reason why the research is being conducted, including an explanation for the design and methods employed in the research.

latency stage: the stage of psychosexual development in which overt sexual interest is sublimated and the child's attention is focused on skills and peer activities with members of his or her own sex.

learned helplessness: a condition in which a person suffers from a sense of powerlessness, arising from a traumatic event or persistent failure to succeed. It is thought to be one of the underlying causes of depression.

libido: either the psychic energy of the life instinct in general or the energy of the sexual instinct in particular.

likert scale: a type of questionnaire that allows a subject to nominate a category of choice in their response. This might be a number (e.g. 1–6) when those numbers represent intensities of agreement or disagreement (e.g. 'Strongly disagree', 'Disagree', 'Somewhat disagree', 'Somewhat agree', 'Agree', 'Strongly agree').

limitations of conclusions: The limitations of a study are those characteristics of design or methodology that impacted or influenced the interpretation of the findings from the research. They are the constraints on generalisability, applications to practice, and/or usefulness of the findings.

line graph: a pictorial representation that indicates the relationship between two factors or two variables in an experiment.

longitudinal studies: the study of a variable or group of variables in the same cases or participants over a period of time, sometimes several years.

low self-monitors means that people are less likely to change their behavior to fit in. This can be seen as combative or even antisocial in some contexts.

low variability: when scores are clustered around the mean, with very little spread of scores either side of the mean.

mean: the arithmetic average of all the individual scores.

measure of central tendency: a descriptive statistic used to show the 'central' or 'average' value of a set of scores. Two measures of central tendency are the mean and median.

measure of dispersion: measure of variability measure of variability: a statistic that indicates how widely scores are spread or scattered around a central point, usually the mean

median: the middle score or midpoint of a set of scores.

mental health: mental health is "a state of well-being in which every individual realises his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community."

method: a tool or technique psychologists use to obtain accurate and reliable information about thoughts, feelings and behaviour.

methodologies: Methodology is analysis of all the methods and procedures of the investigation. ... It is a systematic strategy to find solution to the research problem.

microsleep: refers to periods of sleep that last from a few to several seconds.

mirror neurons: are a type of brain cell that respond equally when we perform an action and when we witness someone else perform the same action.

modelling: (social modelling) a theory that stipulates that we learn to imitate others by observing their behavior and that we learn to behave in certain ways by watching and imitating what others do.

mood: an overall feeling or mental state, such as happiness, anger, tension or anxiety.

motivation: the process that guides and maintains behaviours. For example, when you have not eaten for a period of time, you will eventually start having the feeling of hunger, which motivates you to eat something, and thus reduces the feelings of hunger.

Myers-Briggs Personality Type Indicator (MBTI): is a self-report inventory designed to identify a person's personality type, strengths, and preferences.

naturalistic observation: Qualitative research is conducted in natural settings. This means qualitative researchers study things as they are. They do not manipulate the environment. For instance, there are no experimental and control groups.

nature vs nurture: the dispute over the relative contributions of hereditary and constitutional factors (nature) and environmental factors (nurture) to the development of an individual.

negative reinforcer: something that increases the occurrence of a behaviour by removing an unpleasant stimulus.

NEO Personality inventory (NEO-PI): personality questionnaire designed to assess the factors of the five-factor personality model.

neurochemistry: Neurochemistry is the study of chemicals, including neurotransmitters and other molecules such as psychopharmaceuticals and neuropeptides, that control and influence the physiology of the nervous system. This particular field within neuroscience examines how neurochemicals influence the operation of neurons, synapses, and networks.

neuron: a nerve cell that sends and receives electrical signals within the body and brain.

neuroticism: one of the dimensions of the five-factor personality model and the Big Five personality model, characterized by a chronic level of emotional instability and proneness to psychological distress.

normal distribution: when scores are spread in a bell- shaped pattern, with most clustered around a central point (the mean) and other scores tapering out to the extremes.

normative social influence: is where a person conforms to fit in with the group because they don't want to appear foolish or be left out. Normative social influence is usually associated with compliance, where a person changes their public behaviour but not their private beliefs.

norms of interaction: refer to the conventional rules relating to the conduct of the speech event. These will include rules about floor holding, turn-taking, delivery, topic etc.

norm of reciprocity: The norm of reciprocity requires that we repay in kind what another has done for us. It can be understood as the expectation that people will respond favorably to each other by returning benefits for benefits, and responding with either indifference or hostility to harms.

not for profit: Nonprofits run like a business and try to earn a profit, which does not support any single member; not-for-profits are considered "recreational organisations" that do not operate with the business goal of earning revenue.

null hypothesis: A null hypothesis is tested and accepted or rejected in favour of an alternative hypothesis.

obedience: behavior in compliance with a direct command, often one issued by a person in a position of authority.

objective data: data based on measurements of a participant's response that can be directly observed and verified by the researcher

observational design: an investigation design in which the researcher collects quantitative data based on pre-existing criteria and variables.

observation of behaviour: in research, carefully and systematically watching and recording behaviour as it occurs

observational learning: the process of acquiring information by observing others.

oedipus complex: the erotic feelings of the son toward the mother, accompanied by rivalry and hostility toward the father, during the phallic stage of psychosexual development.

openness to experience: a dimension of the Big Five personality model and the five-factor personality model that refers to individual differences in the tendency to be open to new aesthetic, cultural, or intellectual experiences.

operant conditioning: learning that occurs in the context of experiencing, or avoiding, rewards or punishments contingent upon performing a behaviour.

oral stage: occupying the 1st year of life, in which the libido is concentrated on the mouth as the principal erotic zone. The stage is divided into the early oral-sucking phase, during which gratification is achieved by sucking during feeding, and the later oral-biting phase.

organisational climate: refers to the employees' shared perceptions and the meaning they attach to the policies, practices and procedures they experience in their workplace, as well as to the behaviours they observe being rewarded, supported and expected regarding the human resources of the organisation

organisational culture: is the collection of values, expectations, and practices that guide and inform the actions of all team members.

organisational psychology: also known as industrial organisational psychology, is the branch of psychology that applies psychological theories and principles to organisations. Often referred to as I-O psychology, this field focuses on increasing workplace productivity and related issues such as the physical and mental well-being of employees.

parasympathetic nervous system: responsible for calming the body down, maintaining energy levels and supporting everyday needs, such as regulating blood- sugar levels, secreting saliva, regulating heart rate and blood pressure.

Person centred therapy: Person-centred therapy, also known as person-centred or client-centred counselling, is a humanistic approach that deals with the ways in which individuals perceive themselves consciously, rather than how a counsellor can interpret their unconscious thoughts or ideas.

participant variable: a type of extraneous variable involving the individual characteristics of participants in an experiment (also called **subject variable**).

performance: is a **concept in behaviorism** that stresses the difference between the learning of a behavior and actual performance of the behavior.

performance appraisal: the process of identifying, evaluating and developing the work performance of employees to help achieve the goals and objectives of the organisation.

peripheral route of persuasion: involves persuading people using peripheral cues. It requires little deliberation by the audience.

personality: a person's unique, consistent pattern of thinking, feeling and acting. Personalities are stable patterns that cannot be changed easily.

personality disorders: personalities that are outside social norms and are associated with maladaptive behaviours, emotions and thoughts. These personali ties are usually so ingrained that the person accepts this and has no desire to change.

personality assessment: any instrument used to help evaluate personality or measure personality traits.

persuasion: the process by which a person's attitudes or behaviour are, without duress, influenced by communications from other people.

phenomena: an observable event or physical occurrence.

phobia: a persistent and irrational fear of a specific situation, object, or activity (e.g., heights, dogs, water, blood, driving, flying), which is consequently either strenuously avoided or endured with marked distress.

physiological measures: any of a set of instruments that convey precise information about an individual's bodily functions, such as heart rate, skin conductance, skin temperature, cortisol level, palmar sweat, and eye tracking.

placebo effect: when a person's response is influenced by their beliefs or expectations rather than the specific procedure intended to produce that response.

population: the entire group of research interest from which a sample is drawn.

positive reinforcer: a pleasant, rewarding stimulus that increases the frequency of a particular behaviour.

preconscious: in the classical psychoanalytic theory of Sigmund Freud, the level of the psyche that contains thoughts, feelings, and impulses not presently in awareness but that can be more or less readily called into consciousness.

preparedness: the biological predisposition to quickly learn associations between stimuli, responses, and reinforcers that can be explained by their fit with genetic traits that evolved to enhance the chances of a species' survival.

primacy effect: the tendency for facts, impressions, or items that are presented first to be better learned or remembered than material presented later in the sequence. For example, it can result in a **first-impression bias**, in which the first information gained about a person has an inordinate influence on later impressions and evaluations of that person.

privacy: a principle of research ethics refers to the right of patients and others (e.g., consumers) to control the amount and disposition of the information they divulge about themselves.

prejudice: a negative attitude toward another person or group formed in advance of any experience with that person or group. Prejudices include an affective component (emotions that range from mild nervousness to hatred), a cognitive component (assumptions and beliefs about groups, including stereotypes), and a behavioral component (negative behaviors, including discrimination and violence).

problem-focused coping strategies: target the causes of stress in practical ways which tackles the problem or stressful situation that is causing stress, consequently directly reducing the stress.

protection from harm: Researchers must ensure that those taking part in research will not be caused distress. They must be protected from physical and mental harm. This means you must not embarrass, frighten, offend or harm participants.

protective factors: something that helps to prevent mental health problems.

psychiatrist: a medically qualified professional who specialises in the prevention, diagnosis and treatment of mental illness and emotional problems.

psychodynamic approach: originated from Freudian psychoanalysis and emphasise unconscious components such as conflicts and instinctive energies.

psychologist: someone who is professionally qualified in psychology and is registered by the appropriate state or territory authority.

psychological factors: The psychological component of the biopsychosocial model seeks to find a psychological foundation for a particular symptom or array of symptoms (e.g., impulsivity, irritability, overwhelming sadness, etc.). Individuals with a genetic vulnerability may be more likely to display negative thinking that puts them at risk for depression.

psychology: an academic and applied field involving the study of behaviour, mind and thought, and the neurological bases of behaviour. Psychology also refers to the application of such knowledge to various spheres of human activity, including problems of individuals' daily lives and the treatment of mental illness.

psychosexual development: in the classical psychoanalytic theory of Sigmund Freud, the step-by-step growth of sexual life as it affects personality development. Freud posited that the impetus for psychosexual development stems from a single energy source, the **libido**, which is concentrated in different organs throughout infancy and helps produce the various psychosexual stages.

punisher: any stimulus (action or event) that weakens or decreased the likelihood of a behaviour occurring again.

punishment: the application of an unpleasant stimulus or penalty that represses a behaviour.

qualitative data: data, in a non-numerical form, about the qualities or characteristics of what is being studied.

qualitative investigation: an investigation that collects qualitative data.

qualitative research methods: developed in the social sciences to enable researchers to study social and cultural phenomena. Qualitative data sources include observation, interviews and questionnaires, documents and texts, and the researcher's impressions and reactions. Qualitative research methods are designed to help researchers understand people and the social and cultural contexts within which they live.

quantitative data: data in a numerical form.

quantitative research methods: originally developed in the natural sciences to study natural phenomena and include survey methods, laboratory experiments and numerical methods such as mathematical modelling.

questionnaire: a written set of questions that are used as part of the survey method of gathering data.

random allocation (random assignment): participants who are selected for the experiment are just as likely to be in the experimental group as the control group.

rating scale: a self-report method commonly used to measure attitudes, which uses a series of fixed response questions or statements about a topic for which the participant provides ratings.

raw data: the original measurements on a variable as collected by the researcher, prior to data cleaning, recoding, transformations, and quantitative or qualitative analysis.

recency effect: a memory phenomenon in which the most recently presented facts, impressions, or items are learned or remembered better than material presented earlier. This effect can occur in both formal learning situations and social contexts.

reciprocal engagement: is a theory of a basic social process that addresses how an organisation establishes, maintains, and develops its enterprise by focusing on strengthening its relationships with other actors.

reliability: the consistency and stability of the results obtained from a research study

reinforcement: any process that increases the frequency of a targeted behaviour

reinforcer: a stimulus or event that increases the frequency of occurrence of the behaviour that it follows

repair and restoration: a theory of why people sleep which states that sleep allows for the body to repair and replete cellular components necessary for biological functions that become depleted throughout an awake day.

repeated measures studies: an experimental design in which the effects of treatments are seen through the comparison of scores of the same participant observed under all the treatment conditions.

representativeness of the sample: If we can draw accurate conclusions about a population from a sample, we speak of representativeness. In a narrower sense, a sample is representative, if all of the elements in a population had the same chance to be part of the sample.

repression: the basic defense mechanism that excludes painful experiences and unacceptable impulses from consciousness. Repression operates on an unconscious level as a protection against anxiety produced by objectionable sexual wishes, feelings of hostility, and ego-threatening experiences and memories of all kinds.

resilience: the ability to cope with stress and catastrophe. Resilient children share key traits: the ability to trust and form caring relationships, a sense of independence, good problem-solving skills, perseverance, and a belief that their lives have meaning and purpose.

resilience training: focuses on four areas, including emotional, cognitive and mental, physical, and spiritual resilience. Training in these areas can improve your resiliency, enhance your quality of life, and decrease your stress and anxiety by teaching you to view life's inevitable challenges as opportunities.

response cost: is a special case of a punishment procedure that involves taking away desirable possessions, points, tokens, or privileges in planned, incremental steps following the occurrence of an undesirable behavior or failure to meet a specific goal.

reverse discrimination: the practice or policy of favoring individuals belonging to groups known to have been discriminated against previously; positive discrimination.

risk factors: a clearly defined behavior or constitutional (e.g., genetic), psychological, environmental, or other characteristic that is associated with an increased possibility or likelihood that a mental health will subsequently develop in an individual.

role model: a person or group serving as an exemplar for the goals, attitudes, or behavior of an individual, who identifies with and seeks to imitate the role model.

sample: usually a subsection of research participants selected from the population of research interest.

schema: a collection of basic knowledge about a concept or entity that serves as a guide to perception and interpretation of events, objects or people.

scientific methods: a systematic approach for planning, conducting and reporting research that involves collecting empirical evidence.

self-actualisation: in Maslow's hierarchy of needs, is the highest level of psychological development, where personal potential is fully realised after basic bodily and ego needs have been fulfilled.

self-esteem or self-worth: a person's subjective appraisal of himself or herself as intrinsically positive or negative.

self-image: How you see yourself, including attributes like your physical characteristics, personality traits, and social roles.

self-fulfilling prophecy: process through which an originally false expectation leads to its own confirmation. In a self-fulfilling prophecy an individual's expectations about another person or entity eventually result in the other person or entity acting in ways that confirm the expectation.

self-monitoring: is a personality trait that involves the ability to monitor and regulate self-presentations, emotions, and behaviors in response to social environments and situations. It involves being aware of your behavior and the impact it has on your environment. High self-monitors are typically more apt to conform their behavior to the demands of the situation, whereas low self-monitors tend to behave in accord with their internal feelings.

self-presentation: self-presentation is behavior that attempts to convey some information about oneself or some image of oneself to other people.

self-report: a participant's personal answers, either written or spoken, to questions or statements presented by a researcher.

self-report inventory: a type of psychological test often used in personality assessment. This type of test is often presented in a paper-and-pencil format or administered on a computer.

self-worth: an individual's evaluation of himself or herself as a valuable, capable human being deserving of respect and consideration. Positive feelings of self-worth tend to be associated with a high degree of self-acceptance and self-esteem.

sensing: means that a person mainly believes information he or she receives directly from the external world.

sequential studies: a study in which two or more groups of individuals of different ages are directly compared over a period of time. It is thus a combination of a cross-sectional design and a longitudinal design.

shaping: a technique that is used in operant conditioning in which the behaviour is modified by stepwise reinforcement of behaviours that produce progressively closer approximations of the desired behaviour.

shift work: is an employment practice designed to make use of, or provide service across, all 24 hours of the clock each day of the week

situational variable: a type of extraneous variable involving factors associated with the experimental situation.

situational factors: all the relevant external variables within a setting that influence individual behavior.

skewed distribution: a frequency distribution in which the scores cluster to the left (positively skewed) or right (negatively skewed) of the graph.

sleep debt: an accumulation of the difference between the amount of sleep that a person needs to function at an optimal level and the amount they actually have.

sleep deprivation: occurs when we don't have enough sleep to operate at an optimal level.

sleep hygiene: things in your behavioural control that can help you to have optimal sleep quality and quantity sleep restriction therapy: used for treating insomnia. It is based on the assumption that by limiting the amount of time spent in bed, more efficient sleep will follow.

social desirability : the extent to which someone or something (a trait, attribute, or the like) is admired or considered valuable within a social group.

social desirability bias: tendency of individuals to present themselves in a manner that will be viewed favorably by others. In an experiment, for example, it manifests as the social desirability response set, which is the tendency of participants to give answers that are in accordance with social norms or the perceived desires of the researcher rather than genuinely representative of their views.

social influence: Social influence is the process by which an individual's attitudes, beliefs or behavior are modified by the presence or action of others.

social media: Social media are interactive technologies that allow the creation or sharing/exchange of information, ideas, career interests, and other forms of expression via virtual communities and networks.

social validation: recognition or affirmation that a person or their feelings or opinions are valid or worthwhile.

sociocultural considerations: requires paying attention to a variety of social and cultural contexts, including family relations, political structures, religious beliefs, and local conceptions of health and illness when designing research.

sociocultural factors: environmental conditions that play a part in healthy and adaptive behavior and well-being or in maladaptive behavior and the etiology of mental disorder and social pathology. Social factors include socioeconomic status, culture, technology, and religion. Cultural factors include differences in the circumstances, expectations, and belief systems of different cultural groups.

sources of uncertainty: a source of uncertainty is anything that occurs in the research that could lead to uncertainty in your results.

spontaneous recovery: (classical conditioning) occurs afteran interval where the CS and UCS are reintroduced, the CS will elicit the CR.

SSRI (selective serotonin reuptake inhibitor): any of a class of antidepressants that are thought to act by blocking the reuptake of serotonin into serotonin-containing presynaptic neurons in the central nervous system. The SSRIs have demonstrated efficacy in the treatment of not only depression but also panic disorder and obsessive-compulsive disorder as well as eating disorders.

standard deviation: summarises how far on average a score differs from the mean.

statistical significance: the degree to which a research outcome cannot reasonably be attributed to the operation of chance or random factors.

stereotype: a set of cognitive generalizations (e.g., beliefs, expectations) about the qualities and characteristics of the members of a group or social category.

social stigma: is a sign of moral blemish, a censuring characterisation or a target of negative discrimination.

stimulus discrimination: the process or goal of the animal learning to distinguish a particular stimulus from other stimuli and to react to it.

stimulus generalisation: the transfer of a response learned to one stimulus to a similar stimulus.

stratified sampling: breaks the population down into smaller groups, and random samples are taken from the smaller groups in the same proportion as they appear in the population.

stress: is a normal reaction the body has when changes occur, resulting in physical, emotional and intellectual responses.

stressors: Stressors are situations that are experienced as a perceived threat to one's well-being or position in life, especially if the challenge of dealing with it exceeds a person's perceived available resources.

subculture: a cultural subgroup differentiated by status, ethnic background, residence, religion or other factors that functionally unify the group and act collectively on each member. In Western cultures, one visible subculture is youth culture, and those who identify with this subculture have distinctive dress styles, language, attitudes and interests.

subjective data: data determined by the research participants that the researcher cannot directly verify and therefore be certain of their accuracy.

superego: the moral component of the personality that represents parental and societal standards and determines personal standards of right and wrong, or conscience, as well as aims and aspirations.

survey: a research method in which the researcher gives a common set of questions to a large number of participants, either face-to-face, by mail, by telephone or over the internet.

sympathetic nervous system: activates the body in response to a threat.

symptomology: the set of symptoms characteristic of a medical condition or exhibited by a patient.

systematic desensitisation: a technique used in behaviour therapy to treat phobias and other behaviour problems involving anxiety. The client is exposed to the threatening situation under relaxed conditions until the anxiety reaction is extinguished.

table: a set of facts or figures systematically displayed, especially in columns.

taste aversion (conditioned): the association of the taste of a food or fluid with an aversive stimulus (usually gastrointestinal discomfort or illness), leading to a very rapid and long-lasting aversion to, or at the least a decreased preference for, that particular taste.

temperament: the manner of thinking, behaving or reacting characteristic of a specific person from a very young age, or even at birth.

tokens: used as conditioned reinforcers to modify behaviour. Although valueless in themselves, they can be exchanged for something that is valuable.

tokenism: the practice of making only a perfunctory or symbolic effort to do a particular thing, especially by recruiting a small number of people from under-represented groups in order to give the appearance of sexual or racial equality within a workforce.

trait: a person's enduring characteristics or dispositions that give rise to their behaviour patterns. For example, a curious type of person has curiosity as one of their traits.

trait theory: approaches that explain personality in terms of internal characteristics that are presumed to determine behavior. Some examples are Allport's personality trait theory, Cattell's personality trait theory, and the five-factor personality model.

trauma: a deeply distressing or disturbing experience.

trend analysis: any of several techniques designed to uncover systematic patterns (trends) in a set of variables. Such analysis is often used to predict future events.

tricomponent model of attitudes: a description of any attitude in terms of three related components or parts — affective, behavioural and cognitive components. ABC model.

true self: How much you like, accept, or value yourself, which can be impacted by a number of factors including how others see you, how you think you compare to others, and your role in society

unanimity: is the quality of having all members of a group unified in favor of an action of an activity. For example, "The group voted unanimously for the new group president".

unconscious: in psychoanalytic theory, the region of the psyche containing memories, emotional conflicts, wishes, and repressed impulses that are not directly accessible to awareness but that have dynamic effects on thought and behavior.

unconditioned response: the response, in classical conditioning, evoked by an unconditioned stimulus without an organism going through any prior learning.

unconditioned stimulus: any stimulus that can evoke a response without the organism going through any previous learning.

unconscious: occurring in the absence of conscious awareness or thought, as an emotion or motive. In psychoanalytic theory, it is the division of the mind containing elements such as memories or repressed desires, that are not subject to conscious perception or conscious control but often affect conscious thoughts and behaviour.

validation: the action of checking or proving the validity or accuracy of something.

validity: the degree to which a research study has produced results that accurately measure the behaviour or event that it claims to have measured.

variability: a term used to refer to how scattered or 'spread out' scores are from a central score, usually the mean.

variable: something that can vary in amount or kind over time.

variable interval schedule: a type of operant conditioning reinforcement schedule where the reinforcement is given to a response after a specific, unpredictable amount of time has passed.

variable ratio schedule: a type of operant conditioning reinforcement schedule where the reinforcement is given after an unpredictable (variable) number of responses are made by the organism.

vocational guidance: is a facilitative process, a service rendered to the individual to aid him in choosing and adjusting to an occupation.

voluntary participation: The principle of voluntary participation requires that people not be coerced into participating in research. Essentially, this means that prospective research participants must be fully informed about the procedures and risks involved in research and must give their consent to participate.

withdraw: the right to withdraw is a concept in research ethics that a participant has a right to end participation in that trial, either during the research or afterwards without any negative consequences.

worry: to feel uneasy or concerned about something, usually something in the future or in the past