

## Introduction to Psychology: Supplemental Readings and Resources

# Introduction to Psychology: Supplemental Readings and Resources

*Moving Towards Diversity and Inclusion*

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# About the Supplement

These supplemental readings and resources were developed to accompany [\*Introduction to Psychology: Moving Towards Diversity and Inclusion\*](#).

The Deep Dives provide detailed exploration of subjects, exploring the latest scientific research and developments. These sections offer resources for building assessments and projects that require critical thinking, analysis, and application of psychological principles. They also link to other relevant resources, provide a preview of what is covered in 2nd- or 3rd-year courses, or cover topics that are often included in mainstream introductory psychology textbooks but were moved out of the main narrative in this book to conserve word count. Assign Deep Dives to individual learners or learner teams for presentations during breakout discussions, fostering peer-to-peer learning and engagement.

The Case Studies illustrate how psychological concepts apply in real-world scenarios. These can be used in assessments and projects that bridge theoretical knowledge and practical application. Case Studies provide step-by-step illustrations that can enhance lesson plans and facilitate a deeper understanding of psychological theories. Assign Case Studies to groups or individual learners for presentations or discussions, creating opportunities for collaborative learning and problem-solving.

# CHAPTER 1. INTRODUCTION

# IP.1: Deep Dive - Just For Fun: 20 Songs with "Why?" in the Title

Approximate reading time: 3 minutes

Many songwriters wrestle with "Why?" in their songwriting. Just for fun, let's consider this list of 20 songs where artists ask "Why?". Here's where psychology meets music — thought-provoking and danceable!

1. "Why?" by Annie Lennox. This song talks about how confused and upset Lennox feels about love and relationships.
2. "Why Don't We Just Dance?" by Josh Turner. The song asks why we make life hard when we could just have fun dancing.
3. "Why Do Fools Fall in Love?" by Frankie Lymon & the Teenagers. This song is about someone wondering why they keep liking people who don't like them back.
4. "Why Can't We Be Friends?" by War. The song's message is simple: let's all get along because we're all people.
5. "Why Don't You Love Me?" by Beyoncé. This song is about a woman trying to figure out why her partner doesn't love her anymore.
6. "Why'd You Only Call Me When You're High?" by Arctic Monkeys. This song is for anyone who's had someone only talk to them when they need something.
7. "Why Does It Hurt When I Pee?" by Frank Zappa. If you've ever had a painful pee, this song will make sense to you.
8. "Don't Know Why" by Norah Jones. This is a pretty song about not understanding why things happen, especially during hard times.
9. "Why Can't We Be Friends?" by Smash Mouth. This is a happy song about trying to stay friends with someone you used to date.
10. "Why, Oh Why?" by Pete Seeger. This is a song about love and losing it.
11. "Why Don't We Do It In the Road?" by The Beatles. This song is about being free to love how you want.
12. "Tell Me Why" by The Beatles. This song is about a guy who's confused about his relationship.
13. "Why Is Love So Hard to Find?" by Jesse McCartney. This song talks about how hard it is to find true love.
14. "Why He Told," by King Von. This song is about the tough and risky life on the streets.
15. "Why (Are We Still Friends)?" by 98 Degrees. This song is about two people who broke up but are still friends.
16. "Why Can't I Be You?" by The Cure. This song is about a guy who loves a girl who doesn't love him back, and he tries hard to be what she wants.
17. "Why Don't We Go There?" by One Direction. This song is about two people in love who can't be together.
18. "Why Does It Always Rain On Me?" by Travis. This song is about a guy who feels sad and thinks bad luck is always following him.
19. "Why Don't You Try?" by Kelly Clarkson. This song is about trying to understand why a relationship isn't working.
20. "Why Can't This Be Love?" by Van Halen. This song about someone who loves someone else but feels like the love isn't returned.

Reference: This list was sourced from [Musical Mom](#).

# IP.2: Deep Dive - Three Videos that Delve into the Quirky Side of Psychology

Approximate reading time: 37 minutes

Watch this video: [The Science Behind Our Niche Interests | Compilation \(27 minutes\)](#)



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<https://opentextbc.ca/psychologymtdisupplement/?p=30#oembed-1>

“The Science Behind Our Niche Interests | Compilation” video by SciShow Psych is licensed under the Standard YouTube licence.

Watch this video: [Why Do We Talk to Ourselves? \(5 minutes\)](#)



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“Why Do We Talk to Ourselves?” video by SciShow Psych is licensed under the Standard YouTube licence.

Watch this video: [How Does Reverse Psychology Work? \(5 minutes\)](#)



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<https://opentextbc.ca/psychologymtdisupplement/?p=30#oembed-3>

“How Does Reverse Psychology Work?” video by SciShow Psych is licensed under the Standard YouTube licence.

# IP.3: Deep Dive - Genetic Research Among the Havasupai: A Cautionary Tale

Approximate reading time: 1 minute

What would you do if you found out that a blood sample you provided for what you thought was research into a genetic link for a prevalent disease in your community was actually used for different purposes without your knowledge? This scenario unfolded for the Havasupai Tribe in Arizona, who were shocked to learn that blood samples collected by researchers from Arizona State University (ASU), under the guise of diabetes research, were later utilised for studies on various diseases and genetic analyses, breaching fundamental research ethics. This incident underscores the critical need for clear communication and informed consent in research. To grasp the nature of the misunderstanding between the Havasupai Tribe and ASU, it's important to delve into the principles of community-based participatory research, especially the crucial aspect of informed consent.

You may choose to read more about [Genetic Research among the Havasupai](#).

# IP.4: Case Study (Part 1) - Examples of Methods of Inquiry: Siddharth Bakes to Build Community

Approximate reading time: 5 minutes

Siddharth is a psychology student with a curious mind and a warm heart. He lives in student housing on a floor with 20 students, all with diverse personalities and backgrounds. Each student has their own room, sharing a centralised kitchen and lounge area. Siddharth, naturally outgoing, hopes to make many friends at university. The students are surprisingly quiet, however, each in their own room either studying or playing video games. He hardly ever sees his dorm mates for more than a few minutes when they come and go to classes.

Siddharth not only has an interest in psychology, he also loves baking, a skill he learned from his father, a baker renowned for his international breads and sweets. Siddharth wonders if he can use his baking superpowers and his love for socialising to grow a friendly community on his floor. This is the story of how Siddharth's oven, a dash of creativity, and various psychological methods of inquiry turn a group of strangers into a close-knit family.

To get a sense of what is needed to create a friendly community, Siddharth looks at the problem with different methods of inquiry.

## Collaborative and Inclusive Approaches

Siddharth initiates his project by inviting his dorm mates to a meeting to discuss his baking for friends idea. He encourages them to share their thoughts and suggestions, making them active participants in the discussion.

## Case Studies

He then focuses on observing individual reactions to different baked goods, like Emma's love for cinnamon buns and Mike's preference for dinner rolls.

## Observational Studies

On baking days, Siddharth discreetly watches his dorm mates' reactions, noting how different aromas bring people together.

## Surveys and Questionnaires

He creates a survey to gather broader input on their favourite baked items, finding a universal preference for chocolate chip cookies.

## Interviews

Siddharth has one-on-one chats with his dorm mates, learning about their personal preferences and memories associated with different baked goods.

## Ethnography

He immerses himself in the dorm culture, participating in and observing daily routines and interactions.

## Qualitative Analysis

Siddharth thinks about the conversations and comments made during his baking experiments, uncovering stories about family traditions and childhood memories.

## Longitudinal Studies

Over the first few weeks, he observes how relationships in the dorm evolve, noting an increase in friendliness and spontaneous gatherings.

## Cross-Cultural Studies

With his dorm's cultural diversity, Siddharth calls his father and asks for some recipes for some of the famous treats from different cultures. This addition of international treats fosters a sense of diversity and inclusion.

## Experimental Methods

He tries baking at different times and days to see which generates the most communal response.

# Psychobiological Methods

Siddharth reads in his psychology textbook about how certain smells can trigger positive emotional responses. He decides to focus on creating baked goods with three classic bakery smells. Siddharth observes a remarkable reaction from his floor mates to the comforting scent of like naan, the inviting aroma of cinnamon in cinnamon rolls, and the irresistible allure of chocolate in freshly-baked chocolate chip cookies. Siddharth becomes fascinated by the ability of these scents to not only draw people into the kitchen but also encourage them to linger in the lounge, engaging in conversations. These conversations become the start of friendships. The yummy smells wafting from his baking sessions seem to magically increase happiness and conversation, coaxing even the most shy students out of their rooms and into the lounge to join in the fun.

Through this integrated approach, Siddharth not only learns about dorm mates but also succeeds in creating a warm, friendly environment in his dorm. His project demonstrates the power of psychology in understanding and influencing social dynamics.

As the semester unfolds, Siddharth's baking experiment transforms the dorm's atmosphere. The corridors, once silent, now echo with laughter and chatter. The aroma of freshly baked goods becomes a symbol of friendship and warmth. Siddharth's approach, a blend of various psychological methods, creates a living example of how careful observations and well planned methods can lead to positive change. His success lies not just in the delicious treats he bakes but in his ability to observe, engage and connect with his dorm mates on a deeper level. This is psychology in action — real, impactful — and delicious!

# IP.5: Case Study (Part 2) - Example of the Scientific Method: Siddharth's Baking Experiment

Approximate reading time: 4 minutes

## Observing and Taking Notes

Following his observations from Part 1, Siddharth decides to focus on one idea at a time. He's got this hunch: maybe chocolate chip cookies, compared to cinnamon buns, not only attract more dorm mates but also keep them around longer for chats. He's curious and ready to test this out.

## Forming the Hypothesis

Siddharth comes up with a hypothesis that's easy to test: "chocolate chip cookies will bring more dorm mates to the kitchen and keep them there longer for conversation than cinnamon buns".

## Ethics: Seeking Permission from His Dorm Mates

Before starting his experiment, Siddharth explains to his dorm mates that he has received approval from his psychology professor to study the effects of baking on social gatherings. He seeks and receives their consent to participate in his weekend baking experiments, ensuring ethical standards are met. To avoid influencing the results, Siddharth does not disclose that this is a chocolate chip cookie versus cinnamon bun comparison.

## Designing the Experiment

Siddharth has a simple plan. He'll bake chocolate chip cookies and cinnamon buns on alternate weekends, keeping everything else the same. He arranges the kitchen/lounge area to be super inviting for a casual hangout. While everyone's munching away, Siddharth keeps an eye on the clock, noting how quickly his friends show up and how long they stick around.

He's careful to make sure the cookies and buns are equally yummy and bakes them on different days over two weekends to see if there's a pattern.

## Conducting the Experiment

For the next two weekends, Siddharth is in full baking mode. His dorm mates, lured by the delicious smells, become part of this fun experiment. Siddharth notes their arrival times and how long they hang out, while keeping the vibe light and engaging in the usual friendly conversation.

## Reporting the Results

After his two-week baking marathon, Siddharth gathers all his notes. It turns out that, while the chocolate chip cookies get everyone to the kitchen quickly, it's the cinnamon buns that keep them chatting longer. He shares these surprising findings with his dorm mates, explaining how he set up the experiment and what he discovered. They're all amazed at how a bit of baking can actually reveal so much about their social habits.

## Conclusion: The Baking Party and Learning Experience

The whole thing wraps up with a big baking party. Siddharth shares his secret recipes, and as they all bake together, he talks about why the empirical method is such a big deal in psychology. It's all about experimenting and observing to figure stuff out. Everyone leaves not just with tasty treats but also a new appreciation for how science can be part of everyday life.

Siddharth's baking experiment turns out to be more than just fun in the kitchen; it gave us an example of how asking questions and testing them out can lead to some great — and yummy — insights.

# IP.6: Deep Dive - Activity: Top Three Psychology Disciplines That Intrigue You

Approximate reading time: 10 minutes

Read through this list of some of the areas of psychological study. Let's imagine that you could win a free psychology course with a world leader in the field of your choosing. Included in the prize is a field trip to a setting where you can see that discipline of psychology being applied. Choose your top three sub-disciplines that most match your interest. In a group or written reflection briefly explain why your chosen three suit you more than all the other choices. Step 2: Now choose your TOP choice out of the three you have picked. Show in a comic or describe what you would experience if you were chosen to study and work in your top choice setting.

Table SUP IP.1 Areas of psychology

Area	What does it do?	What is it?	Current topic	Notable research
Anti-Racism Psychology	Focuses on understanding and combating racial prejudice and discrimination.	An emerging field; the psychological impact of systemic racism.	Exploring how systemic racism affects mental health and societal structures.	Research on racial identity development models: important insights into how racial identity is formed and its impact on individuals.
Biological Psychology	Explores the relationship between the brain, nervous system, and behaviour.	Neuroplasticity and its implications for recovery after brain injury.	Studying how the brain can adapt and recover from injury.	Phineas Gage's brain injury case, which highlighted the link between brain injury and changes in personality.
Clinical Psychology	Focuses on diagnosing and treating mental, emotional, and behavioural disorders.	The effectiveness of tele-therapy in mental health treatment.	Assessing how remote therapy sessions impact mental health care.	The development of cognitive-behavioural therapy (CBT), which pioneered a highly effective treatment for various mental disorders.
Cognitive Psychology	Studies mental processes such as perception, memory, reasoning, and problem-solving.	The role of artificial intelligence in understanding human cognition.	Exploring how AI can mimic or enhance cognitive processes.	Simon & Newell's work on human problem-solving, which demonstrated how computer models can simulate human thought processes.
Consumer Psychology	Focuses on understanding consumer behaviour and the psychological processes behind marketing and persuasion.	The psychology of advertising and consumer decision-making.	Exploring how marketing strategies influence consumer choices and behaviour.	Robert Cialdini's Principles of Persuasion, which outlined key tactics used in marketing and persuasion.
Counseling Psychology	Deals with helping people manage and overcome personal and interpersonal challenges.	The role of mindfulness in stress reduction.	Exploring how mindfulness practices can alleviate stress and improve mental health.	Carl Rogers's client-centred therapy approach, which revolutionised therapy with a focus on empathy and unconditional positive regard.
Cultural Psychology	Explores how culture influences mental processes and behaviour.	Cross-cultural differences in perception and cognition.	Studying how cultural backgrounds shape the way people think and perceive.	Hofstede's cultural dimensions theory, which offered a systematic framework for understanding cultural differences.
Cyberpsychology	Studies the impact of emerging technology, including virtual reality and social media, on human behaviour and mental processes.	Effects of virtual reality and social media on mental health.	Investigating the psychological consequences of prolonged exposure to virtual environments and social media.	Facebook emotional contagion study, which demonstrated how emotions can be spread via social media.
Developmental Psychology	Examines the psychological changes that occur throughout a person's life span.	The impact of digital media on child development.	Investigating how screen time affects children's cognitive and social development.	Piaget's stages of cognitive development, a foundational theory of cognitive development in children.

Educational Psychology	Focuses on the ways in which people learn and the effectiveness of educational interventions.	The effects of standardised testing on student learning.	Analysing the impact of standardised exams on educational outcomes.	Bloom's taxonomy of educational objectives, which provided a framework for categorising educational goals and objectives.
Environmental Psychology	Studies the interactions between people and their physical surroundings.	The psychological effects of climate change.	Examining how environmental changes impact mental health and behaviour.	Proshansky's place identity theory, which explored the relationship between physical environment and personal identity.
Evolutionary Psychology	Studies the ways in which evolutionary principles like natural selection influence human psychological traits and behaviours.	The evolutionary basis of human social behaviour.	Examining how evolutionary factors shape social interactions and behaviours.	Buss's research on evolutionary bases of human mating strategies, which provided a framework for understanding mating behaviour from an evolutionary perspective.
Feminist Psychology	Addresses gender issues and the impact of gender on psychological experiences.	The psychology of gender identity and expression.	Investigating the complexities of gender identity and societal influences.	The impact of gender stereotypes on behaviour, which highlighted how gender expectations influence individual behaviour.
Forensic Psychology	Involves applying psychological knowledge to legal issues and criminal investigations.	The reliability of eyewitness testimony.	Examining the accuracy and reliability of memory in legal contexts.	The Stanford prison experiment, which showcased the powerful influence of roles and social situations on behaviour.
Health Psychology	Studies how psychological, behavioural, and cultural factors contribute to physical health and illness.	The psychological impact of chronic illness.	Focusing on how long-term illnesses affect mental health and coping strategies.	The biopsychosocial model of health and illness, which introduced a holistic approach to understanding health and disease.
Indigenous Psychology	Studies psychological principles and practices that are native to, and developed within Indigenous wisdom traditions, culture and protocols.	Study of the illness effects of colonised systems on Indigenous people.	Promoting well-being through growing Indigenous identity, culture, and traditional practices. Decolonising and Indigenising social, medical and education systems.	Research on the impact of surviving Residential Schools and its effects on first and second generations.
Industrial/Organisational Psychology	Applies psychological principles to workplace issues, including productivity, work behaviour, and employee well-being.	The psychology of remote work and its impact on productivity.	Investigating the effects of remote working environments on employee efficiency.	Hawthorne studies on workplace productivity, which demonstrated the importance of social factors and employee attention in the workplace.
Multicultural Psychology	Examines the behaviour of individuals in different cultural settings and how cultural factors influence mental health.	Study of the effects of cultural diversity on mental health treatment.	Investigating how cultural background influences the effectiveness of mental health interventions.	Sue's theory of microaggressions in everyday life, which shed light on the subtle forms of discrimination and their psychological impact.

Neuropsychology	Examines the relationship between brain function and behaviour.	Study of advances in brain imaging techniques and their applications.	Exploring new ways to visualise and understand brain activity.	HM's case study in memory loss, which provided crucial insights into how memory functions and is stored in the brain.
Positive Psychology	Explores positive emotions, strengths-based character, and healthy institutions.	The science of happiness and well-being.	Focusing on what makes life most worth living and how to cultivate well-being.	Seligman's research on learned helplessness and optimism, which provided insights into how people can overcome adversity and develop resilience.
Psycholinguistics	Investigates the psychological and neurobiological factors that enable humans to acquire, use, and understand language.	Study of the impact of bilingualism on cognitive development.	Exploring how speaking multiple languages affects brain function and cognition.	Chomsky's theory of language acquisition, which revolutionised the understanding of how language is learned and processed in the brain.
Rehabilitation Psychology	Focuses on the psychological aspects of disability and rehabilitation, addressing the mental health and well-being of individuals with disabilities.	Psychological interventions for disability management, which promote social supports and advocacy actions to empower individuals and grow community.	Examining effective strategies to support individuals with disabilities in managing their conditions and improving quality of life. Changing inaccessible discriminatory places and spaces.	Famous Study: Research on the effectiveness of cognitive-behavioural therapy for chronic pain management.
Social Psychology	Investigates how individuals' thoughts, feelings, and behaviours are influenced by social contexts.	Study of social media's impact on self-esteem and body image.	Examining the effects of social media on individual self-perception.	Milgram's obedience experiments, which revealed the extent to which people are willing to obey authority figures.
Space Psychology	Focuses on the psychological and behavioural aspects of living and working in space environments.	Study of the mental health challenges of long-duration space missions.	Studying the psychological effects of extended stays in space.	Studies on isolation and confinement in space analog environments, which offered insights into how isolation impacts mental health in space-like conditions.
Sport Psychology	Focuses on the psychological aspects affecting sports and physical activity performance.	Study of mental health in elite athletes.	Addressing the psychological pressures and mental health issues faced by professional athletes.	The concept of flow in sports performance, which investigated the state of being "in the zone" and its impact on athletic performance.

# CHAPTER 2. HISTORY OF PSYCHOLOGY

# HP.1: Deep Dive - How Do You Get Good at Choosing the Right Tools for the Job?

Approximate reading time: 10 minutes

Mastering the art of selecting the right tools in any professional field is a many-stepped journey, encompassing a blend of formal education, experiential learning, and cultural wisdom. Here's how you can develop this essential skill of knowing which tool is appropriate to use in what context.

- **Education and Training:** Formal education and specific training programs provide foundational knowledge and skills. Advanced courses and specialized training can deepen understanding of specific tools and methods.
- **Consult Experienced Elders and Traditional Stories:** Engaging with Indigenous Elders and long-time pioneers in the field can offer invaluable wisdom and insights. Traditional stories and historical perspectives can provide a deeper, often holistic understanding of human behaviour and decision-making.
- **Consulting with Academic Experts:** Seeking advice and insights from more experienced colleagues or experts in the field can provide valuable perspectives and guidance. This can include mentorship relationships or informal consultations.
- **Supervised Experience:** Apprenticeships or supervised practice under experienced professionals allow for learning in real-world settings. This hands-on experience is crucial for understanding the way of applying different tools and theories.
- **Continuing Professional Development:** Attending workshops, seminars, and conferences keeps professionals updated on the latest research, tools, and best practices in their field.
- **Engagement with Research Literature:** Regularly reading and analyzing current research helps professionals stay informed about new theories, tools, and evidence-based practices.
- **Peer Collaboration:** Discussing cases and theories with colleagues can offer new insights, diverse perspectives, and collective problem-solving approaches.
- **Reflective Practice:** Continuously reflecting on one's own decisions, successes, and failures helps in understanding the effectiveness of different approaches and in making more informed decisions in the future.
- **Feedback and Evaluation:** Receiving constructive feedback from peers, supervisors, or clients/patients and evaluating one's own performance are essential for ongoing improvement.
- **Ethical and Cultural Competence:** Understanding and respecting diverse cultural backgrounds and ethical considerations is crucial in making appropriate and sensitive professional judgments.

By embracing these important sources of knowledge and experience, professionals can significantly enhance their clinical or professional judgment, leading to more effective and culturally sensitive choices in the psychological tools they use.

# HP.2: Deep Dive - Eight Influential Pioneers in Psychology

Approximate reading time: 72 minutes

Before we explore the modern era of psychology, it's important to acknowledge the significant contributions from various cultures around the world to our understanding of the human mind and behaviour. Long before psychology became recognized as a science, people from different cultures had already developed deep insights into how humans think and act. This includes the philosophical inquiries of Ancient Greece and India, the detailed studies of emotions in Chinese and Islamic teachings during their golden ages, and the deep understanding of the psyche in Indigenous cultures. These early contributions provided a foundation for many ideas that modern psychology would later explore, including some that have not always been given due credit or attention in mainstream psychology studies.

Psychology, which began to take shape as an experimental science in the 19th century, was initially intertwined with philosophy. People like Wilhelm Wundt in Germany and William James in North America are often celebrated as the pioneers who established psychology as a unique scientific and academic field. A variety of perspectives in the development of psychology have greatly benefited from the insights of these early founders.

For example, feminist psychology emerged to challenge the male-centred focus of earlier theories and practices. It highlighted the specific experiences and psychological needs of women, pushing against established norms and advocating for gender equality in psychological research and practice. Influential figures like Sandra Bem and Carol Gilligan transformed our understanding of gender roles and identity, offering a broader view of human psychology.

The study of racial identity and the psychological effects of racism also became important, especially in the context of Black psychology. The pioneering work of psychologists like Mamie Phipps Clark and Kenneth Clark, followed by scholars such as Claude Steele, provided deep insights into the impacts of racial prejudice and segregation, influencing educational policies and practices.

Indigenous psychology is another important area that acknowledges the distinct cultural, social, and historical contexts of Indigenous peoples. Psychologists like Gregory Cajete and Eduardo Duran have emphasised the importance of integrating traditional knowledge and practices into our psychological understanding, promoting a more comprehensive and culturally sensitive approach to mental health and well-being.

The history of psychology is vast and complex, covering a wide range of theories, experiments, and groundbreaking discoveries. Covering it all would require an entire course. In this next section, we will highlight eight psychology pioneers from various psychology disciplines.

## Highlighting Eight Influential Psychology Pioneers

In this section, you will read about eight psychologists, each selected to represent a different area within the expansive field of psychology. Our goal is to showcase the diversity within psychological research and practice, acknowledging from the start that these eight figures are merely a small sample of the many contributors who have shaped the discipline. Psychology, as a field, is enriched by a wide range of perspectives, theories, and methodologies, reflecting the complexity of human behaviour and mental processes.

The limitation to highlighting one psychologist from various disciplines is not an indication of their sole importance but rather a practical decision due to space constraints. It's impossible to cover everyone who deserves recognition within this brief overview. Here is your snapshot of the field's richness and the variety of insights that have advanced our understanding of psychology.

Focusing on these eight pioneers is intended to spark your curiosity and encourage further exploration into the contributions of other psychologists, especially those whose work has been historically overlooked or marginalised. This approach aligns with the broader goal of promoting an inclusive view of psychology that values diversity and recognizes the importance of multiple perspectives in enriching our understanding of the human mind and behaviour.

The psychologists featured in the text boxes throughout this section are not intended for memorisation. Instead, they are included to offer you an appreciation for some of the other influential pioneers in psychology, highlighting the depth and diversity of contributions across the field. See Supplement HP.3 for a more complete list of pioneers.

[Supplement HP.3: Deep Dive – More Influential Pioneers and Theories in Psychology \[New Tab\]](#)

## 1. Wilhelm Wundt (1832–1920) – Structuralism



*Figure SUP HP.1. Wilhelm Wundt. Wilhelm Wundt is credited as one of the founders of psychology. He created the first laboratory for psychological research.*

Wilhelm Wundt, a German scientist active from 1832 to 1920, is often celebrated as the first true psychologist. His influential book, “Principles of Physiological Psychology,” published in 1873, marked a significant milestone in psychology (Araujo, 2021). Wundt viewed psychology as a scientific study of conscious experience. He aimed to dissect the components of consciousness and understand how they combine to form our overall conscious experience.

Wundt utilised a method known as introspection, or internal perception, where individuals examined their own thoughts and feelings as objectively as possible. This approach treated the human mind as a subject of scientific study, similar to any natural phenomenon. Wundt also emphasised voluntarism, the belief in free will, advocating that participants in psychological experiments should be fully aware of the experiment’s intentions.

In 1879, Wundt established his psychology laboratory at the University of Leipzig. Here, he and his students conducted various experiments, such as measuring reaction times to stimuli like lights or sounds. These experiments were precise, measuring reactions to the thousandth of a second. Wundt also believed in the importance of cultural studies in psychology, as he argued in his 1904 book “Volkerpsychologie.”

However, Wundt’s introspection method had its limitations due to its subjective nature, leading to varying interpretations among different individuals.

Watch this video: [Structuralism, Wilhelm Wundt, & Edward Titchener – Psychology \(3.5 minutes\)](#)



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“Structuralism, Wilhelm Wundt, & Edward Titchener – Psychology” video by The School of Ireland is licensed under the Standard YouTube licence.

## Structuralism

Edward Titchener (1867–1927): A key figure in the development of structuralism, Edward Titchener focused on dissecting the conscious mind into its basic elements using introspection, significantly influencing early American psychology.

## Functionalism

William James (1842–1910): As the first American psychologist, William James championed functionalism, emphasising the importance of studying the functions of behaviour and mental processes in adapting to the environment.

## Pioneering Women in Psychology

- Margaret Floy Washburn (1871–1939): The first woman to earn a PhD in psychology, Margaret Floy Washburn made pioneering contributions to comparative psychology, particularly through her work on animal cognition in “The Animal Mind.”
- Mary Whiton Calkins (1863–1930): Despite facing gender discrimination, Mary Whiton Calkins made significant contributions to memory research and self-psychology, blending introspection with an emphasis on the purpose of consciousness.

## Psychoanalytic Theory

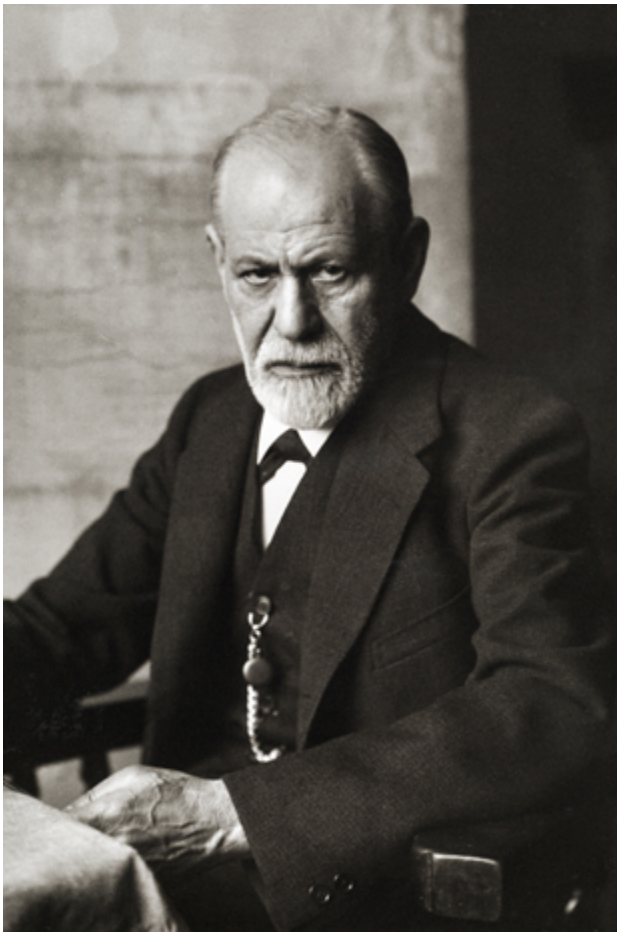
- Melanie Klein (1882–1960): Melanie Klein significantly advanced psychoanalytic theory with her work in child psychology and play therapy, offering deep insights into the emotional lives and

development of children.

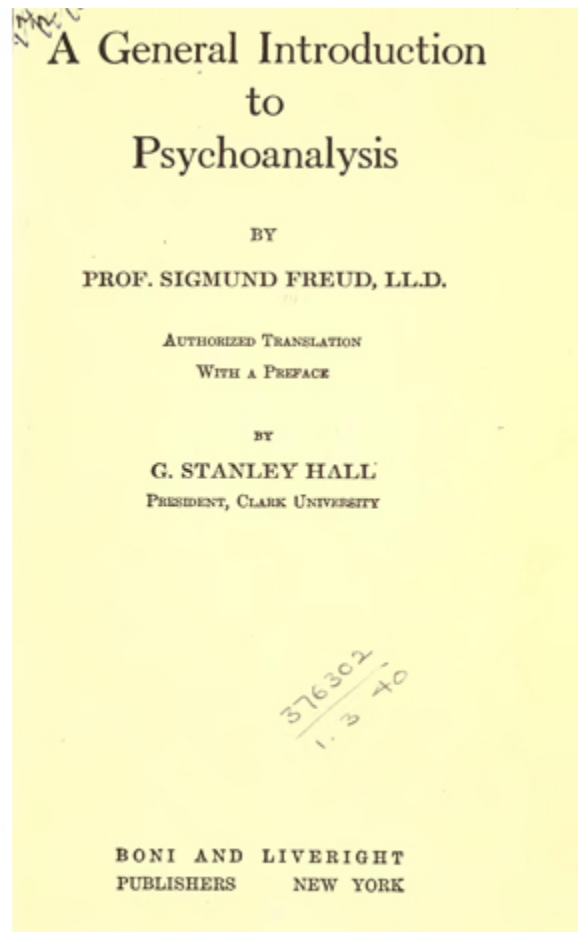
- Nancy Chodorow (1944–): Nancy Chodorow's work in psychoanalytic theory and feminist psychology has profoundly influenced our understanding of gender identity and the dynamics of family relationships.

## 2. Sigmund Freud (1856–1939)

### Psychoanalytic Theory



(a)



(b)

*Figure SUP HP.2. Sigmund Freud. (a) Sigmund Freud was a highly influential figure in the history of psychology. (b) One of his many books, A General Introduction to Psychoanalysis, shared his ideas about psychoanalytic therapy; it was published in 1922.*

Figure 1.4 as found in [Psychology 2e by OpenStax](#) is licensed under a [CC BY 4.0 License](#).

Freud's theories, though developed over a century ago, continue to influence modern psychology. His theory of the dynamic unconscious suggests that our deepest thoughts and feelings operate below the level of our conscious awareness, subtly influencing our behaviours and choices (Loevinger, 1966). The idea of interpersonal drive plasticity highlights how our motivations and desires can shift based on our relationships with others, reflecting the fluid nature of human psychology (Loevinger, 1966). Additionally, Freud's pleasure principle and drive theory propose that our actions are often driven by an innate desire to seek pleasure and avoid pain, and by internal forces like biological and emotional needs (Souza, 2023). These foundational concepts from Freud provide valuable insights into understanding of human behaviour and the complexities of the mind.

Freud's theories have been criticised for having a male bias, meaning that they often view psychological issues from a man's perspective and overlook women's experiences. For example, Freud suggested that men and women naturally have different personalities, like men being more logical and women more emotional, which supports old-fashioned gender stereotypes. His theories on how children develop psychologically were mainly based on boys, with his ideas about girls being less developed and offered as an afterthought. Freud also had a limited view of female sexuality that oversimplified and misrepresented women's experiences. He even saw some typical feminine traits, like showing emotions, as problematic. Feminist psychologists argue that Freud's work is too focused on men and doesn't fairly represent women, calling for a more balanced approach in psychology (Harrison, 1978; Gillem, Sehgal, & Forcet, 2002; Patil, 2017).

Watch this video: [Why Do We Still Teach Freud If He Was So Wrong? \(6 minutes\)](#)



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"Why Do We Still Teach Freud If He Was So Wrong?" video by SciShow Psych is licensed under the Standard YouTube licence.

## Behaviourism

- Ivan Pavlov (1849–1936): Pavlov's research on classical conditioning laid the groundwork for behaviourism by demonstrating how reflexive behaviours can be conditioned by associating different stimuli.
- John B. Watson (1878–1958): As a proponent of behaviourism, Watson shifted psychology's focus to observable behaviour, advocating for the scientific study of actions without reference to mental states.
- Mary Cover Jones (1896–1987): Known for her pioneering work in desensitising fears, Mary Cover Jones developed counterconditioning techniques that laid the foundation for behaviour therapy.
- B.F. Skinner (1904–1990): Skinner expanded on behaviourism with his research on operant

conditioning, emphasising the role of reinforcement and punishment in shaping behaviour.

- Ulric Neisser (1928–2012): Dubbed the “father of cognitive psychology,” Neisser played a crucial role in shifting the focus of psychology to the study of internal mental processes like perception and memory.

## The Cognitive Revolution

- Ulric Neisser (1928–2012): Dubbed the “father of cognitive psychology,” Neisser played a crucial role in shifting the focus of psychology to the study of internal mental processes like perception and memory.
- Jean Piaget (1896–1980): Piaget’s theory of cognitive development, detailing how children’s thinking evolves through distinct stages, has profoundly influenced our understanding of child psychology.
- Albert Bandura (1925–2021): Bandura’s social learning theory, highlighting the role of observation and imitation in learning, expanded the scope of psychology beyond traditional conditioning theories.

## Humanism

Abraham Maslow (1908–1970): Maslow’s hierarchy of needs theory, emphasising a progression from basic survival needs to self-actualisation, has been influential in both psychology and broader cultural contexts.

### 3. Noam Chomsky (1928–present)

#### The Cognitive Revolution



*Figure SUP HP.3. Noam Chomsky. Noam Chomsky was very influential in beginning the cognitive revolution.*

Although no one person is entirely responsible for starting the cognitive revolution, Noam Chomsky was very influential in the early days of this movement (Figure IP.9). Chomsky, an American linguist, was dissatisfied with the influence that behaviourism had on psychology. He believed that psychology's focus on behaviour was short-sighted and that the field had to re-incorporate mental functioning into its explanations if it were to offer any meaningful contributions to understanding behaviour (Miller, 2003). Noam Chomsky's work in linguistics, emphasising that language arises from an innate human capacity, has significantly influenced modern cognitive science. His theory of a "universal grammar" inherent to all humans revolutionised the understanding of language acquisition and processing, leading to advancements in cognitive psychology (Barman, 2014; Glover, 2014). Chomsky's insistence on the importance of innate structures in the mind for language development shifted psychology's focus towards internal mental processes, contributing to the cognitive revolution (Glover, 2014). This shift not only changed the direction of psychological research but also influenced fields like artificial intelligence and neuroscience (Glover, 2014).

Watch this video: [Noam Chomsky on Language Acquisition \(2 minutes\)](#)

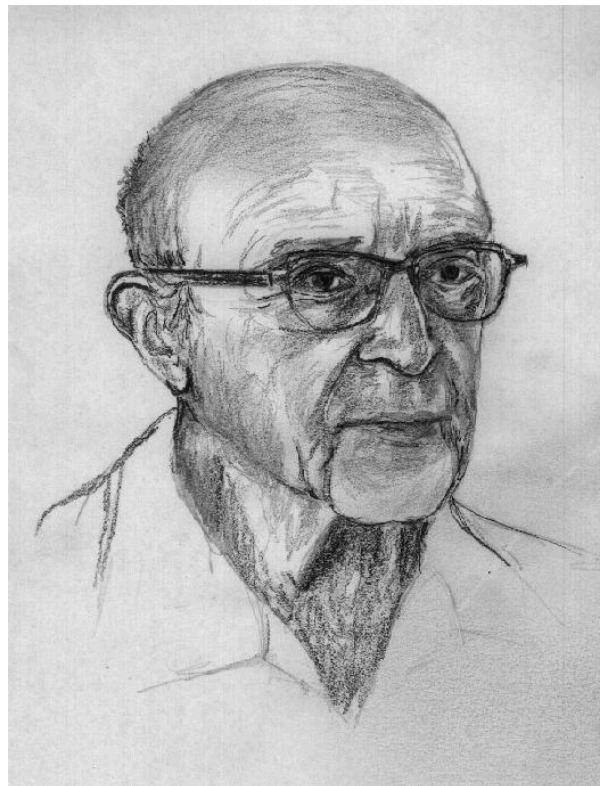


One or more interactive elements has been excluded from this version of the text. You can view them online here: <https://opentextbc.ca/psychologymtdisupplement/?p=49#oembed-3>

“Noam Chomsky on Language Acquisition” video by BBC Radio 4 is licensed under the Standard YouTube licence.

## 4. Carl Rogers

### Humanism



*Figure SUP HP.4. Carl Rogers. Carl Rogers emphasised the potential for good that exists within all people.*

Carl Rogers was also an American psychologist who, like Maslow, emphasised the potential for good that exists within all people. Rogers used a therapeutic technique known as client-centred therapy to help his clients deal with problematic issues that resulted in their seeking psychotherapy. Unlike a psychoanalytic approach in which the therapist plays an important role in interpreting what conscious behaviour reveals about the unconscious mind, client-centred therapy involves the patient taking a lead role in the therapy session. Rogers believed that a therapist needed to display three features to maximise the effectiveness of this particular approach: unconditional positive regard, genuineness, and empathy. Unconditional positive regard refers to the fact that the therapist accepts their

client for who they are, no matter what he or she might say. Rogers believed that people were more than capable of dealing with and working through their own issues (Thorne & Henley, 2005).

Humanism has been influential to psychology as a whole. Both Maslow and Rogers are well-known names among students of psychology (you will read more about both later in this text), and their ideas have influenced many scholars. Furthermore, Rogers' client-centred approach to therapy is still commonly used in psychotherapeutic settings today (O'Hara, n.d.)

Watch this video: [Carl Rogers on Person-Centred Therapy \(2 minutes\)](#)



*One or more interactive elements has been excluded from this version of the text. You can view them online here:*

<https://opentextbc.ca/psychologymtdisupplement/?p=49#oembed-4>

“Carl Rogers on Person-Centred Therapy” video by PsychotherapyNet is licensed under the Standard YouTube licence.

## 5. Naomi Weisstein

### Feminism and Gender Studies

An article by Naomi Weisstein, first published in 1968 (Weisstein, 1993), stimulated a feminist revolution in psychology by presenting a critique of psychology as a science. She also specifically criticised male psychologists for constructing the psychology of women entirely out of their own cultural biases and without careful experimental tests to verify any of their characterizations of women. Weisstein used, as examples, statements by prominent psychologists in the 1960s, such as this quote by Bruno Bettelheim: “We must start with the realisation that, as much as women want to be good scientists or engineers, they want first and foremost to be womanly companions of men and to be mothers.” Weisstein’s critique formed the foundation for the subsequent development of a feminist psychology that attempted to be free of the influence of male cultural biases on our knowledge of the psychology of women.

Crawford & Marecek (1989) identify several feminist approaches to psychology that can be described as feminist psychology. These include re-evaluating and discovering the contributions of women to the history of psychology, studying psychological gender differences, and questioning the male bias present across the practice of the scientific approach to knowledge.

Watch this video from 1:19:32-1:27:31: [Naomi Weisstein Memorial \(1939-2015\): Founding Feminist, Neuroscientist, Comedian, and Musician \(8 minutes\)](#)

## Feminism and Gender Studies

- Sandra Bem (1944–2014): Bem transformed our understanding of gender through the development of the Bem Sex-Role Inventory, challenging traditional gender norms and advocating for the concept of psychological androgyny.
- Judith Butler (1956–present): Butler revolutionised gender studies by introducing the idea of gender performativity, suggesting that gender identity is constructed through social behaviours rather than being biologically predetermined.
- Carol Gilligan (1936–present): Gilligan expanded the field of moral psychology by highlighting the differences in moral reasoning between genders, emphasising the importance of relational context in ethical decision-making.

## Indigenous Psychology and Methodologies

- Linda Tuhiwai Smith (1950–present): Smith pioneered Indigenous methodologies in academic research with her work advocating for decolonisation and the inclusion of Indigenous perspectives, significantly influencing research practices.
- Gregory Cajete (1950s–present): Cajete has been instrumental in integrating Indigenous knowledge into education and psychology, emphasising the critical role of cultural context in learning and mental health.
- Vine Deloria Jr. (1933–2005): Deloria was a key figure in Native American Studies and psychology, focusing on Indigenous spirituality and challenging the academic status quo with Indigenous knowledge systems.
- Eduardo Duran (1950s–present): Duran has been pivotal in blending Indigenous healing practices with Western psychological methods, advocating for culturally sensitive therapeutic approaches.

## Race Theory and Racial Identity Development

- Kimberlé Crenshaw (1959–present): Crenshaw developed Critical Race Theory and the concept of intersectionality, exploring the complex interplay of race, gender, and class in experiences of discrimination and privilege.
- bell hooks (1952–2021): hooks critically examined the connections between race, capitalism, and gender, contributing to discussions on social justice and the psychological effects of societal power structures.
- Beverly Daniel Tatum (1954–present): Tatum's work on racial identity development and the psychology of racism has deepened our understanding of race relations and educational psychology.

## 6. Maria Yellow Horse Brave Heart (1950s–present)

### Indigenous Psychology and Methodologies

Maria Yellow Horse Brave Heart's work on historical trauma and its impact on Native American populations has changed how we think about intergenerational trauma in psychology. She introduced the concept of soul wound and historical trauma (Durán, Duran, Brave Heart, & Yellow Horse-Davis, 1998). A "soul wound" refers to a deep emotional and psychological injury that affects an individual at the core of their being. Historical trauma, on the other hand, is a term that describes the cumulative emotional and psychological pain carried across generations by a group of people who have experienced traumatic events in their history. Her development of the concept of historical trauma response has provided a framework for understanding the intergenerational psychological impact of colonisation and cultural oppression (Brave Heart, 2002). This has significantly influenced how mental health professionals understand and address the mental health needs of Indigenous populations. Brave Heart's theoretical framework has been foundational in studies exploring the effects of historical trauma among Native American communities (Sharif & Murtaza, 2022). Her work has also been instrumental in highlighting the role of gender injustice and the fight against male domination within these communities (Mulyadi, 2018).

Moreover, Brave Heart's contributions have extended to the broader understanding of the heart's role in various physiological and psychological conditions, enriching the field with her insights (Ferrario & Page, 1978). Her work appears in significant journals, contributing to the discourse on psychoactive drugs and their impact on Indigenous populations (Journal of Psychoactive Drugs, 2011). Through her research, Brave Heart has played a crucial role in advancing the understanding of historical trauma, its manifestations, and its long-term effects on Indigenous peoples.

Watch this video for first 5 minutes: [Maria Yellow Horse Brave Heart: Historical Trauma in Native American Populations \(31 minutes\)](#)



*One or more interactive elements has been excluded from this version of the text. You can view them online here:*  
<https://opentextbc.ca/psychologymtdisupplement/?p=49#oembed-5>

"Maria Yellow Horse Brave Heart: Historical Trauma in Native American Populations" video by Smith College School for Social Work is licensed under the Standard YouTube licence.

## 7. Mamie Phipps Clark (1917–1983) and Kenneth Clark (1914–2005)

### Race Theory and Racial Identity Development



*Figure SUP HP.5. Dr. Mamie Phipps Clark and Dr. Kenneth Clark. Social psychologists Dr. Mamie Phipps Clark and husband Dr. Kenneth Clark, the first African Americans to obtain Doctorate degrees from Columbia University.*

Mamie Phipps Clark and her husband, Kenneth Clark, two renowned African American researchers and psychologists, have made a profound impact in the field of psychology and beyond. They are best known for their groundbreaking studies on African American children and doll preference, which played a pivotal role in the historic *Brown v. Board of Education* Supreme Court case on desegregation (American Psychological Association, 2019).

The Clarks' research was revolutionary in demonstrating the psychological effects of segregation on African American children. Their studies involved presenting children with dolls of different races and observing their preferences and attributions. The findings revealed a preference for White dolls, highlighting the internalised effects of racism and segregation on young African American children's self-perception and identity.

Beyond their research, the Clarks were also deeply committed to applying their findings to improve social conditions. They opened the first child guidance centre in Harlem, aiming to provide psychological and social services to children and families in the community. This centre was not just a place for therapy and counselling, but also a hub for social change and advocacy.

Their work extended beyond the laboratory and the therapy room, influencing policies and contributing to the Civil Rights Movement. The Clarks' dedication to using psychological research for social betterment has made them iconic figures in the fields of both psychology and social justice.

## Multicultural and Cross-Cultural Psychology

- Inez Beverly Prosser (1895–1934): As the first African-American woman to earn a PhD in psychology, Prosser's research on the impacts of educational environments on African American students' psychological development was groundbreaking.

- Francis Cecil Sumner (1895–1954): Sumner, the first African American to receive a PhD in psychology, played a crucial role in challenging racial biases in intelligence testing and education.
- Martha Bernal (1931–2001): As the first Latina to earn a PhD in psychology in the US, Bernal advocated for cultural sensitivity in psychological research and practice, emphasising the importance of cultural context in child development.

## Neuroscience and Neuropsychology

- Brenda Milner (1918–present): As a pioneering neuropsychologist, Milner’s seminal work on memory systems and the role of the hippocampus has profoundly influenced the fields of neuroscience and psychology, enhancing our comprehension of human brain function.
- Ursula Bellugi (1931–2022): Bellugi’s groundbreaking research on American Sign Language and Williams syndrome offered pivotal insights into the neural underpinnings of language and cognition, establishing sign languages

## 8. Donald Hebb

Donald Hebb’s contributions to psychology, particularly in the realms of synaptic plasticity and neural networks, have been profoundly influential. His work, especially the concept of the Hebbian synapse, is a cornerstone of our understanding of the ways in which neural connections strengthen through repeated activation, a process fundamental to learning and memory (Langille & Brown, 2018).

Hebb’s theory, often described with the phrase “cells that fire together, wire together”, has been pivotal in the development of theories related to neural network functioning and synaptic plasticity. This concept has significantly influenced both neuroscience and psychology, offering a foundational understanding of how experiences can shape and rewire the brain’s neural pathways (Alghafri, 2021).

His theories have continued to be relevant and form a basis for ongoing research in cognitive neuroscience. Hebb’s insights into how learning and memory are encoded in neural networks have been crucial in advancing our understanding of cognitive processes. This has implications not only for theoretical psychology but also for practical applications in areas such as education, rehabilitation, and even artificial intelligence.

Moreover, Hebb’s work has bridged the gap between psychological phenomena and biological mechanisms. By proposing mechanisms through which neural activity leads to strengthened connections and learning, he provided a biological basis for complex psychological processes.

## *Hebbian Synapse*

Imagine your brain as a network of roads. Each time you think, feel, or do something, it's like sending a car down a specific road. If two roads are often used at the same time, they start to connect and build a stronger, more direct path between them. This means the next time you start to think or do one of those things, it's easier and quicker for your brain to follow this path and do both together.

## Summary: Highlighting Eight Influential Psychology Pioneers

In reviewing the contributions of the eight psychology pioneers discussed, we've touched on a fraction of the number of individuals whose work has profoundly shaped our understanding of psychology. Each was chosen for their unique contributions to distinct areas of psychology, offering deep insights into human thought, emotion, and behaviour. Yet, it's essential to recognize that the field extends far beyond these figures and their innovations. Psychology's richness comes from diverse voices, many of which have historically been marginalised or overlooked.

The classic psychology textbook's emphasis on a select few — often white male — psychologists as the foundational figures of psychology overlooks the contributions of pioneers from varied backgrounds, races, genders, and cultures. This narrow focus not only skews our understanding of psychological principles but also diminishes the field's relevance to a broader spectrum of human experience.

Acknowledging the wide array of contributors to psychology is not just about giving credit where it's due. It's about enriching our understanding of human nature by incorporating many perspectives and experiences. This broader view challenges us to think outside traditional frameworks and to consider the full complexity of human behaviour and mental processes.

As we continue to explore psychology, let's keep asking ourselves, "What perspectives are missing?" and "Whose voices are we not hearing?". These questions remind us of the importance of inclusivity in psychological research and practice. They encourage us to seek out and value the contributions of all psychologists, recognizing that the field is most vibrant and most insightful when it reflects the diversity of human experience.

## Image Attributions

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Figure SUP HP.3. [Noam Chomsky speaks about humanity's prospects for survival in Amherst, Massachusetts, United States on 13 April 2017](#) by By Σ, retouched by Wugapodes is licensed under a [CC BY 4.0 License](#).

Figure SUP HP.4. [Sketch of Carl Ransom Rogers](#) Carl Rogers defined the concept of self-image (or self-concept) as the [set of all the thoughts, ideas and judgments you have about yourself](#) by [Didius](#) at [Dutch Wikipedia](#) and transferred from nl.wikipedia to Commons is licensed under a [CC BY 2.5 license](#).

Figure SUP HP.5. [Kenneth and Mamie Clark with their children, 1958](#) by Charlotte Brooks is in the public domain.

# HP.3: Deep Dive - More Influential Pioneers and Theories in Psychology

Approximate reading time: 6 minutes

## Inclusion Criteria for this Page

1. **Innovative Contribution:** This refers to whether the individual has introduced new theories, models, or practices that significantly changed existing understanding or practices in psychology. For example, Cindy Blackstock's advocacy and work in child welfare have brought significant changes in policies and practices, especially concerning Indigenous children in Canada.
2. **Influence on the Field:** This looks at how their work has influenced peers, subsequent research, and the broader field. Gregory Cajete, for instance, has been influential in integrating Indigenous perspectives into educational psychology, which has reshaped some of the approaches in this field.
3. **Impact Beyond Academia:** Consideration of how their work has affected policy, practice, and public understanding. Michael Yellow Bird's contributions to social work and psychology, particularly in decolonizing practices, have had a significant impact not just in academia but also in practical applications and community engagements.
4. **Recognition and Awards:** Formal recognition in the form of awards, positions in prestigious institutions, or influential publications. Vine Deloria Jr., while more known for his work in Native American studies than psychology per se, has been influential in how psychological concepts are understood and applied in Indigenous contexts.
5. **Longevity and Enduring Relevance:** How their work has stood the test of time and continues to be relevant and cited in contemporary research and practice.
6. **Cross-Disciplinary Impact:** The extent to which their work has influenced or been integrated into other disciplines.
7. **Breaking the Glass Ceiling:** First notable minoritized BIPOC person or woman to enter their field.

## The Foundations of Modern Psychology (Late 19th Century)

- Margaret Floy Washburn (1871–1939): Authored "The Animal Mind," a seminal text in comparative psychology.
- Mary Whiton Calkins (1863–1930): Memory research and self-psychology; developed theories combining structuralism and functionalism.
- Wilhelm Wundt (1832–1920): Established the first psychology lab; father of experimental psychology.
- Edward Titchener (1867–1927)
- Sigmund Freud (1856–1939): Developed psychoanalysis; explored the unconscious mind.
- William James (1842–1910): Pioneered the field of American psychology and emphasized the importance of functionalism and consciousness.

## The Emergence of Different Schools of Thought (Early 20th Century)

- Carl Jung (1875–1961): Founded analytical psychology; concepts of collective unconscious and archetypes.
- Mary Cover Jones (1896–1987): Desensitizing fears, and countering the conditioned fear.
- Ivan Pavlov (1849–1936): Classical conditioning; showed learned responses in dogs.
- Melanie Klein (1882–1960): Advanced psychoanalysis; pioneered play therapy.
- John B. Watson (1878–1958): Prominent figure in behaviourism; famous for the Little Albert experiment.
- Kurt Lewin (1890–1947): Founder of social psychology; theories on group dynamics.
- Gordon Allport (1897–1967): Studied personality traits; nature of prejudice.
- B.F. Skinner (1904–1990): Leading figure in behaviourism; operant conditioning.

## The Cognitive Revolution (Mid 20th Century)

- Jean Piaget (1896–1980): Theory of cognitive development; how children think.
- Lev Vygotsky (1896–1937): Sociocultural Theory of Development; role of social interaction.
- Erik Erikson (1902–1994): Eight-stage theory of psychosocial development.
- Noam Chomsky (1928–present): Generative grammar; influenced psycholinguistics.
- Albert Bandura (1925–2021): Social Learning Theory; concept of self-efficacy.
- Harry Harlow (1905–1981): Research on attachment using rhesus monkeys.
- Lawrence Kohlberg (1927–1987): Stage theory of moral development.

## Neuroscience and Neuropsychology

- Brenda Milner (1918–present): Work in neuropsychology, particularly on memory systems.
- Donald O. Hebb (1904–1985): Theory of synaptic plasticity and neural networks.
- Ursula Bellugi (1931–present): Neuropsychology and Language Development; research in sign language.

## Feminist and Gender Studies in Psychology

- Sandra Bem (1944–2014): Gender Studies; developed the Bem Sex-Role Inventory.
- Judith Butler (1956–present): Gender Studies and Queer Theory; work on gender performativity.
- Carol Gilligan (1936–present): Gender Differences in Moral Development; emphasis on gender differences.
- Kimberlé Crenshaw (1959–present): Critical Race Theory and Feminist Legal Theory; introduced the concept of intersectionality.
- bell hooks (1952–2021): Social and Feminist Theory; examination of systems of power and oppression.

# Race Theory and Racial Identity Development

- Claude Steele (1946–present): Social Psychology; research on stereotype threat.
- William Cross (1945–present): Racial Identity Development; Nigrescence Model.
- Beverly Daniel Tatum (1954–present): Race Relations and Educational Psychology; explored racial identity development and the psychology of racism.
- Joseph White (1932–2017): African American Psychology; focus on challenges faced by African Americans.
- Frantz Fanon (1925–1961): Post-Colonial Theory; psychological impacts of racism and oppression.
- Martha Bernal (1931–2001): Studied Mexican American children; educational and cultural psychology.
- Inez Beverly Prosser (1895–1934): Educational experiences and mental health of African American students.

# Gestalt Psychology

- Max Wertheimer (1880–1943): Pioneer developer of Gestalt psychology; focus on perception as a whole.
- Kurt Koffka (1886–1941): Gestalt psychology; emphasis on holistic processing.
- Wolfgang Köhler (1887–1967): Gestalt psychology; research on insight and perception.

# Humanistic Psychology

- Abraham Maslow (1908–1970): Hierarchy of needs and self-actualization; human motivation.
- Carl Rogers (1902–1987): Developed client-centered therapy; emphasized human potential.

# Indigenous Psychology and Methodologies

- Gregory Cajete (1950s–present): Indigenous Education and Psychology; focus on Native science and Indigenous education.
- Linda Tuhiwai Smith (1950–present): Indigenous Methodologies; decolonizing methodologies in Indigenous psychology.
- Vine Deloria Jr. (1933–2005): Native American Studies and Psychology; influence on Indigenous spirituality.  
Michael Yellow Bird (1950s–present): Social Work and Indigenous Psychology; contributions to social work and Indigenous psychology.
- Eduardo Duran (1950s–present): Clinical Psychology and Indigenous Healing; integrating traditional healing practices with Western psychology.
- Maria Yellow Horse Brave Heart (1950s–present): Historical Trauma and Indigenous Psychology; addressing the impact of historical trauma on Native American populations.
- Cindy Blackstock (1960s–present): Child Welfare and Indigenous Rights; advocacy in child welfare, especially for Indigenous children.

## The Rise of Applied Psychology (Late 20th Century)

- Martin Seligman (1942–present): Founded positive psychology; studied learned helplessness.
- Carol Dweck (1946–present): Researched fixed vs. growth mindsets.
- Mamoru Iwata (1943–present): Behavioural Analysis and Developmental Disabilities; research on self-injurious behaviour.
- Hans Eysenck (1916–1997): Personality and Intelligence; contributions to psychometrics.
- Raymond Cattell (1905–1998): Personality and Psychometrics; development of the 16 Personality Factor Questionnaire.

## Pioneers in Applied Psychological Research

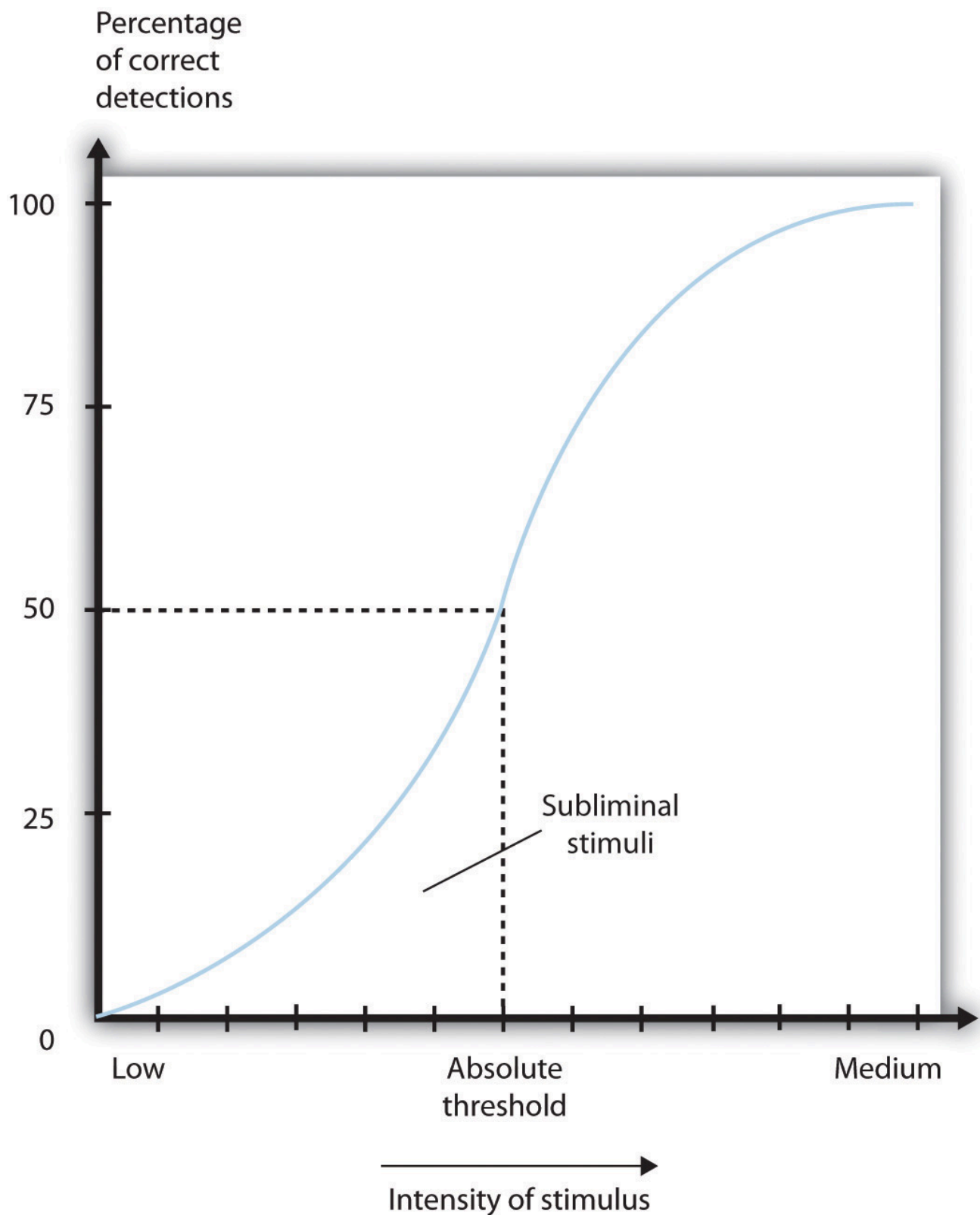
- Philip Zimbardo (1933–present): Social Psychology; Stanford prison experiment.
- Elizabeth Loftus (1944–present): Memory and Cognitive Psychology; research on memory malleability and the misinformation effect.
- Marsha Linehan (1943–present): Clinical Psychology; developed Dialectical Behaviour Therapy

# CHAPTER 5. SENSATION AND PERCEPTION

# SP.1: Deep Dive - Are You Under the Influence of Subliminal Signals?

Approximate reading time: 4 minutes

In psychology, we learn about something called the “absolute threshold.” This is the point where we start to notice really faint things, like a whisper or a dim light. Once we can notice something more than half the time, we say it’s “conscious.” But what about things that are too faint to notice, like a sound so soft you can’t hear it? These are called “subliminal stimuli,” and they’re interesting because they can still affect how we think and act, even though we don’t realize it.



*Figure SUP SP.1 Absolute Threshold. As the intensity of a stimulus increases, we are more likely to perceive it. Stimuli below the absolute threshold can still have at least some influence on us, even though we cannot consciously detect them.*

A variety of research programs have found that subliminal stimuli can influence our judgments and behaviour, at least in the short term (Dijksterhuis, 2010). But whether the presentation of subliminal stimuli can influence the products that we buy has been a more controversial topic in psychology. In one relevant experiment, Karremans, Stroebe, and Claus (2006) had Dutch college students view a series of computer trials in which a string of letters such as BBBBBBBBB or BBBbBBBBB were presented on the screen. To be sure they paid attention to the display, the students were asked to note whether the strings contained a small b. However, immediately before each of the letter strings, the researchers presented either the name of a drink that is popular in Holland (Lipton Ice) or a control string containing the same letters as Lipton Ice (NpeicTol). These words were presented so quickly (for only about one-fiftieth of a second) that the participants could not see them.



*Figure SUP SP.2. Subliminal stimuli. In an experiment by Karremans, Stroebe, and Claus (2006) Dutch college students were presented either the name of a drink that is popular in Holland or control words. The researchers found that the students who had been exposed to the drink name were significantly more likely to say the drink name than those who had been exposed to the control words.*

Then the students were asked to indicate their intention to drink Lipton Ice by answering questions such as “If you were to sit on a terrace now, how likely is it that you would order Lipton Ice,” and also to indicate how thirsty they were at the time. The researchers found that the students who had been exposed to the “Lipton Ice” words (and particularly those who indicated that they were already thirsty) were significantly more likely to say that they would drink Lipton Ice than were those who had been exposed to the control words.

## Example: Subliminal Advertising

Subliminal advertising, a method that sends messages below our conscious awareness, has intrigued psychologists for its potential impact on our behaviour and choices. This type of advertising is subtle and often goes unnoticed, yet it may influence our feelings towards products and brands.

Research presents a nuanced view of its effectiveness. Suresh and Tandon (2018) observed that subliminal messages can subconsciously sway consumer preferences, sometimes positively and sometimes negatively. Similarly, Sofi et al. (2018) and Maalik and Choughari (2020) found that these hidden cues can particularly influence young consumers, nudging them towards impulsive buying. However, the overall impact of subliminal advertising appears to be modest. Trappey's (1996) meta-analysis suggests that its effect on consumer choice is minimal, a sentiment echoed by Beatty and Hawkins (1989), who doubt its direct influence on purchasing behaviour.

The effectiveness of subliminal advertising can also be context-dependent. A fascinating example is the study by Smarandescu and Shimp (2015), which demonstrated that subliminal messages significantly influenced purchase intentions when participants were in an active thirst state. This suggests that our current needs or states can make us more susceptible to these subtle influences. However, in more typical shopping environments, this effect was not observed, indicating that the power of subliminal messages may be limited to specific situations.

In conclusion, while subliminal advertising can subtly influence our attitudes and behaviours, its overall impact is relatively small and highly dependent on individual and situational factors. For psychology students, understanding the role of these hidden messages in consumer behaviour highlights the complexity of human decision-making processes.

## Image Attributions

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# SP.2: Deep Dive - Eleanor Gibson: Pioneer in Perceptual Learning and Development

Approximate reading time: 3 minutes

Eleanor Gibson's foundational work in perceptual learning and development revolutionised our understanding of this complex field. Observing infants, she conceptualised perception as a combination of environment-originated, self-in-search, and reciprocal perception processes. Here is a brief description of each of her contributions to our understanding of perception.

- **Differentiation theory:** She posited infants as active learners, interacting with their surroundings to “differentiate” or pick out stable structures — a concept now known as differentiation theory. This model challenges the notion of children as passive recipients of their environment. As they develop, children increasingly perceive specific details, refining their perceptual systems to recognize the diversity and nuances in their environment (Pick, 1992).
- **Direct perception:** Gibson proposed direct perception, another groundbreaking theory that veered from established ideas. This theory stated that perception does not require heavy internal processing or the creation of mental representations of the world. Instead, the environment supplies all the necessary cues, and it is up to the infant to detect these cues directly. Perception, in this view, is a direct extraction from the stimuli in our environment.
- **Ecological approach:** Gibson, along with her husband James Gibson, pioneered the ecological approach to perception. This approach asserts that perception is not an isolated process but deeply connected with the environment. The environment and the perceiver are in a reciprocal relationship, and understanding perception requires a comprehensive exploration of this interaction (Adolph, & Kretch, 2015).
- **Affordances:** Gibson also focused on the nature of Perceptual Learning. She emphasised that perceptual learning is not just about receiving feedback from the environment. Instead, it involves the discovery and detection of different affordances (opportunities for action) in the environment. As infants explore and interact, they learn what actions are feasible, contributing significantly to their understanding of the world around them. An affordance refers to what the environment offers an individual in terms of action (Chemero, 2003; Szokolszky, Read, Palatinus, & Palatinus, 2019). For example, a chair doesn't merely “appear” as a chair to us; it affords sitting. Infants gradually learn about these affordances as they navigate their surroundings.

In sum, Eleanor J. Gibson's contributions have left an indelible mark on our understanding of perceptual development. Her theories emphasised the infant's active role in discerning information from the environment and the direct link between environment and perception. This innovative approach countered previous theories that necessitated heavy cognitive processing for perception, and continues to influence.

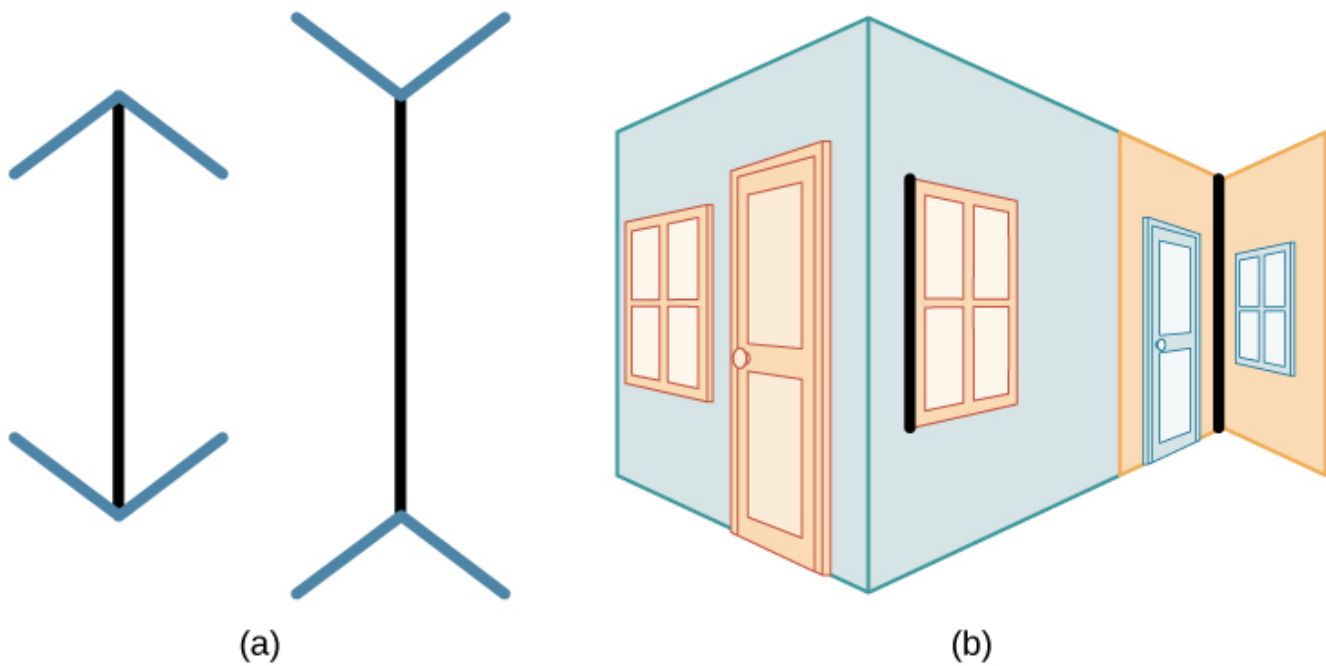
# SP.3: Deep Dive - Beliefs, Values, Prejudices, Expectations, and Life Experiences Affect Perceptions

Approximate reading time: 4 minutes

Our perceptions can also be affected by our beliefs, values, prejudices, expectations, and life experiences (Balci, 2016; Fawcett, Wang, & Birch, 2005). As you will see later in this chapter, individuals who are deprived of the experience of binocular vision during critical periods of development have trouble perceiving depth (Fawcett, Wang, & Birch, 2005; Gilaie-Dotan, 2015). The shared experiences of people within a given cultural context can have pronounced effects on perception (Kitayama, Markus, & Kurokawa, 2020). For example, a multinational study demonstrated that individuals from Western cultures were more prone to experience certain types of visual illusions than individuals from non-Western cultures, and vice versa (Halterman & DeLucia, 2021; Segall, Campbell, and Herskovits, 1963). One such illusion that Westerners were more likely to experience was the Müller-Lyer illusion (Figure SUP SP.3): The lines appear to be different lengths, but they are actually the same length (Gomez, Skiba, & Snow, 2017).

Two vertical lines are shown on the left in (a). They each have V-shaped brackets on their ends, but one line has the brackets angled toward its center, and the other has the brackets angled away from its center. The lines are the same length, but the second line appears longer due to the orientation of the brackets on its endpoints. To the right of these lines is a two-dimensional drawing of walls meeting at 90-degree angles.

Within this drawing are 2 lines which are the same length, but appear different lengths. Because one line is bordering a window on a wall that has the appearance of being farther away from the perspective of the viewer, it appears shorter than the other line which marks the 90 degree angle where the facing wall appears closer to the viewer's perspective point



**Figure SUP SP.3 The Müller-Lyer illusion.** In the Müller-Lyer illusion, lines appear to be different lengths although they are identical. (a) Arrows at the ends of lines may make the line on the right appear longer, although the lines are the same length. (b) When applied to a three-dimensional image, the line on the right again may appear longer although both black lines are the same length.

These perceptual differences were consistent with differences in the types of environmental features experienced on a regular basis by people in a given cultural context. People in communities that construct buildings using linear wood and metal often perceive their environment through a lens of straight lines. This phenomenon is referred to as a “carpentered world” in a study by Segall et al. (1966). In these communities, the architectural context is dominated by buildings with straight edges and angles.

On the other hand, communities that prefer non-linear constructions offer a different perceptual context. An example is the Zulu communities in South Africa. They are known for their villages composed of round buildings arranged in circles. According to Segall et al. (1999), individuals from such communities with an “uncarpentered” view are less susceptible to certain optical illusions that rely on straight-line perception.

This contrast highlights how cultural and environmental contexts can shape our perceptual experiences. It is not just vision that is affected by cultural factors. Indeed, research has demonstrated that the ability to identify an odour and rate its pleasantness and its intensity varies cross-culturally (Ayabe-Kanamura, Saito, Distel, Martínez-Gómez, & Hudson, 1998).

## Image Attributions

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# SP.4: Case Study - Bringing it All Together: Amari and Their Lost Phone

Approximate reading time: 5 minutes



*Figure SUP SP.4. Amari and their cellphone.*

Amari is expecting an important call but has lost their phone in a crowded nightclub. Let's see how each of the models can explain how Amari manages to find their phone in time to receive the call.

- **Environment-Originated:** A bright red flash from a VIP section caught Amari's eye. Their phone's intense red coloured case stood out from the dimly lit club.
- **Self-in-Search:** Expecting their phone to be on a high-top table, Amari bypassed the dance floor and headed straight to the bar. Sure enough, their phone was there.
- **Reciprocal Perception:** Feeling overwhelmed by the crowded room and loud music, Amari took a breather outside the club. The cool and quiet night outside soothed and refreshed their senses. On returning, Amari immediately felt the subtle vibrations of their phone on a nearby table — something they hadn't noticed earlier. Their heightened awareness subtly reshaped their interaction with the club's sounds and lights. They picked up the phone just in time for the incoming call. Whew!
- **Differentiation Theory:** Amid the pulsating music in the club, Amari picked up on the unique, rhythmic buzz of their phone's vibration against a metal table. They recognized the sound — it stood out from the thumping bass.
- **Direct Perception:** As soon as Amari re-entered the club, they spotted a flash of red in a booth. Their phone! Their familiarity with it allowed quick identification, even amid the flashing strobe lights.
- **Ecological Approach:** Paying attention to the club's environment, Amari noticed the way the coloured lights

illuminated certain areas more than others. It was in one such well-lit area, where a spotlight hit a table, that they spotted a distinct red hue peeking out from under a backpack — their phone!

- **Perceptual Learning:** Years of spotting their phone trained Amari’s eyes. A glimpse of red behind a backpack triggered recognition. There it was!
- **Affordances:** Understanding that the environment offered potential clues, Amari looked for surfaces that could ‘afford’ to hold a phone. They headed towards the lounge area where low, broad tables were perfect for partygoers to leave their belongings. Sure enough, their red phone was lying on one such table, its location made possible by the table’s affordance for resting objects.
- **Emotional Stimuli:** Filled with worry about their missing phone and potentially missing an important call, every detail in the club seemed amplified to Amari. This heightened emotional state made them incredibly observant, allowing them to spot a corner of their red phone peeping out from under a backpack amidst the chaos of the club.
- **Predictive Coding:** Amari guessed their phone might be in the private booth they often visited. They were right!
- **Sensory Adaptation:** Initially, the loud music overwhelmed Amari, but it soon faded into the background. In the relative silence, they heard their phone’s ring near the DJ booth.
- **Attention:** Amid the sensory overload, Amari concentrated on finding their red phone. This selective attention paid off when they spotted it behind a cocktail glass.
- **Divided Attention:** As the club’s music throbbed, Amari split their attention between searching for their phone and engaging in a deep conversation with a friend. Amari’s mind was juggling the visual search amongst the dancing crowd while also tracking the thread of the conversation. Amari’s multitasking slowed down the search but eventually, a glimmer of red near the DJ booth caught their eye — their phone!
- **Perceptual Inattention:** At the club’s masquerade party, Amari was so focused on finding their phone that they missed a performer in a gorilla costume walking by.
- **Change Inattention:** Amari didn’t notice that while they were looking for their phone the DJ changed the music playlist. When Amari found their phone, they looked up, surprised, asking, “When did the techno start?”.
- **Beliefs, Values, Prejudices, Expectations, and Life Experiences Affect Perceptions:** Amari’s belief that their phone might have been stolen initially made them eye a boisterous group with suspicion. Upon realising that their bias was skewing their perception, Amari refocused and soon found their phone under a bar stool.



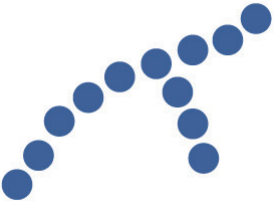

## Image Attributions

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# SP.5: Deep Dive - Gestalt Principles of Form Perception

Approximate reading time: 2 minutes

Table SUP SP.1 Gestalt principles of form perception

Principle	Description	Example	Image
Figure-ground relationship	We structure input so that we always see a figure (image) against a ground (background).	At right, you may see a vase or you may see two faces, but in either case, you will organize the image as a figure against a ground.	
Similarity	Stimuli that are similar to each other tend to be grouped together.	You are more likely to see three similar columns among the XYX characters at right than you are to see four rows.	<pre> X   Y   X X   Y   X X   Y   X X   Y   X </pre>
Proximity	We tend to group nearby figures together.	Do you see four or eight images at right? Principles of proximity suggest that you might see only four.	
Continuity	We tend to perceive stimuli in smooth, continuous ways rather than in more discontinuous ways.	At right, most people see a line of dots that moves from the lower left to the upper right, rather than a line that moves from the left and then suddenly turns down. The principle of continuity leads us to see most lines as following the smoothest possible path.	
Closure	We tend to fill in gaps in an incomplete image to create a complete, whole object.	Closure leads us to see a single spherical object at right rather than a set of unrelated cones.	

## Image Attributions

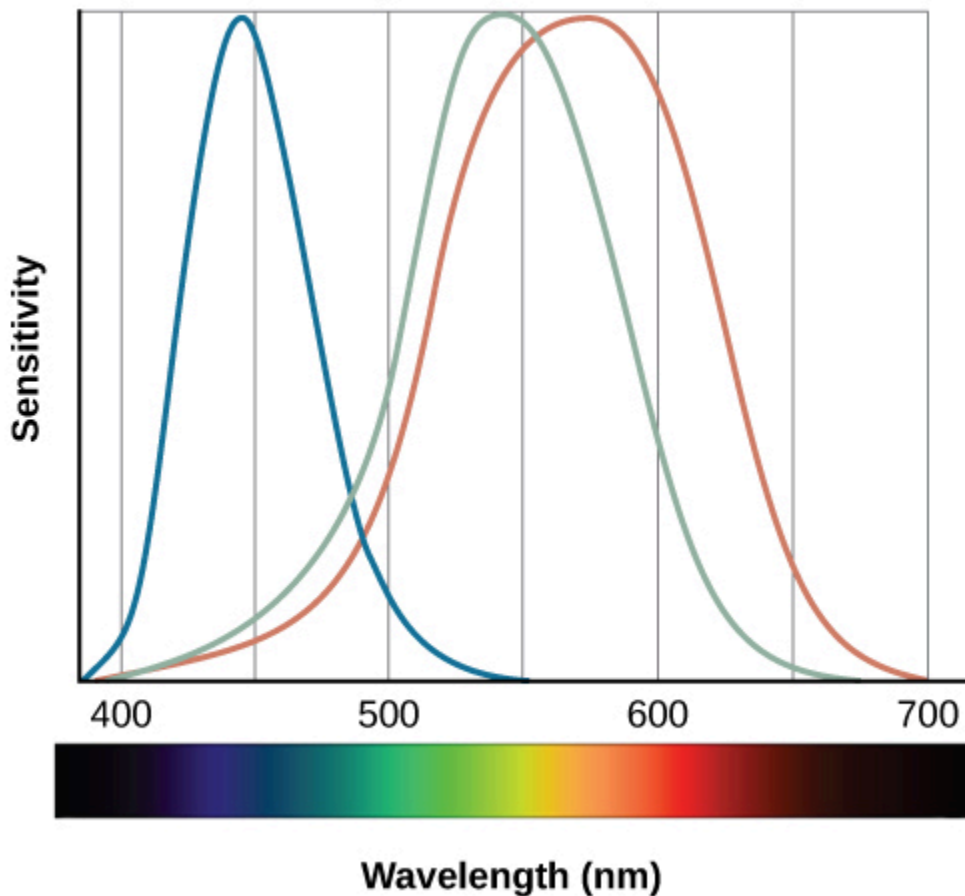
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# SP.6: Deep Dive - Colour Vision and Depth Perception

Approximate reading time: 30 minutes

## Colour Vision

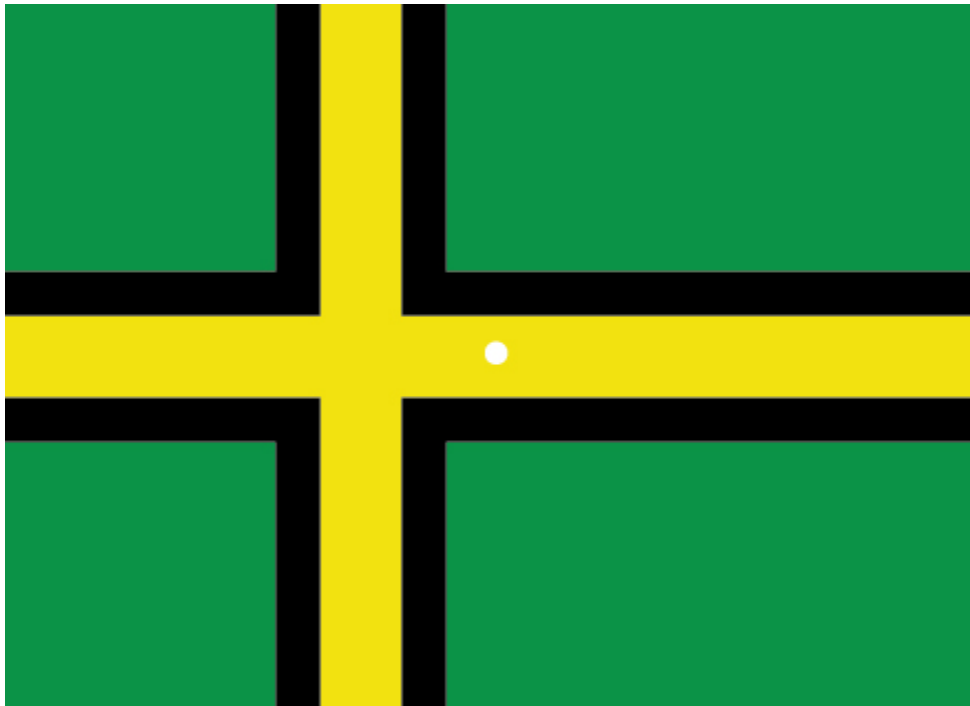
Sighted individuals have three different types of cones that mediate colour vision. Each of these cone types is maximally sensitive to a slightly different wavelength of light. According to the trichromatic theory of colour vision, shown in Figure SUP SP.5, all colours in the spectrum can be produced by combining red, green, and blue. The three types of cones are each receptive to one of the colours.



*Figure SUP SP.5. Light wavelengths. This figure illustrates the different sensitivities for the three cone types found in a normal-sighted individual.*

The trichromatic theory of colour vision is not the only theory — another major theory of colour vision is known as the opponent-process theory. According to this theory, colour is coded in opponent pairs: black-white, yellow-blue,

and green-red. The basic idea is that some cells of the visual system are excited by one of the opponent colours and inhibited by the other. So, a cell that was excited by wavelengths associated with green would be inhibited by wavelengths associated with red, and vice versa. One of the implications of opponent processing is that we do not experience greenish-reds or yellowish-blues as colours. Another implication is that this leads to the experience of negative afterimages. An afterimage describes the continuation of a visual sensation after removal of the stimulus. For example, when you stare briefly at the sun and then look away from it, you may still perceive a spot of light although the stimulus (the sun) has been removed. When colour is involved in the stimulus, the colour pairings identified in the opponent-process theory lead to a negative afterimage. You can test this concept using the flag in Figure SUP SP.6.



*Figure SUP SP.6. Opponent-process theory. Stare at the white dot for 30–60 seconds and then move your eyes to a blank piece of white paper. What do you see? This is known as a negative afterimage, and it provides empirical support for the opponent-process theory of colour vision.*

But these two theories — the trichromatic theory of colour vision and the opponent-process theory — are not mutually exclusive. Research has shown that they apply just to different levels of the nervous system. For visual processing on the retina, trichromatic theory applies: the cones are responsive to three different wavelengths that represent red, blue, and green. But once the signal moves past the retina on its way to the brain, the cells respond in a way consistent with opponent-process theory (Land, 1959; Kaiser, 1997).

Watch this video: [Vision: Crash Course Anatomy & Physiology #18 \(9.5 minutes\)](#)



One or more interactive elements has been excluded from this version of the text. You can view them online here: <https://opentextbc.ca/psychologymtdisupplement/?p=82#oembed-1>

“Vision: Crash Course Anatomy & Physiology #18” video by CrashCourse is licensed under the Standard YouTube licence.

## Depth Perception

Our ability to perceive spatial relationships in three-dimensional (3D) space is known as depth perception. With depth perception, we can describe things as being in front, behind, above, below, or to the side of other things.

Our world is three-dimensional, so it makes sense that our mental representation of the world has three-dimensional properties. We use a variety of cues in a visual scene to establish our sense of depth. Some of these are binocular cues, which means that they rely on the use of both eyes. One example of a binocular depth cue is binocular disparity, the slightly different view of the world that each of our eyes receives. To experience this slightly different view, do this simple exercise: extend your arm fully and extend one of your fingers and focus on that finger. Now, close your left eye without moving your head, then open your left eye and close your right eye without moving your head. You will notice that your finger seems to shift as you alternate between the two eyes because of the slightly different view each eye has of your finger.

A 3D movie works on the same principle: the special glasses you wear allow the two slightly different images projected onto the screen to be seen separately by your left and your right eye. As your brain processes these images, you have the illusion that the leaping animal or running person is coming right toward you.

Although we rely on binocular cues to experience depth in our 3D world, we can also perceive depth in 2D arrays. Think about all the paintings and photographs you have seen. Generally, you pick up on depth in these images even though the visual stimulus is 2D. When we do this, we are relying on a number of monocular cues, or cues that require only one eye. If you think you can't see depth with one eye, note that you don't bump into things when using only one eye while walking — and, in fact, we have more monocular cues than binocular cues.

Watch this video: [Tricky Topics: Binocular Depth Perception \(7 minutes\)](#)



*One or more interactive elements has been excluded from this version of the text. You can view them online here:*  
<https://opentextbc.ca/psychologymtdisupplement/?p=82#oembed-2>

“Tricky Topics: Binocular Depth Perception” video by FirstYearPsych Dalhousie is licensed under the Standard YouTube licence.

## Monocular Depth Cues That Help Us Judge Depth at a Distance.

In our everyday life, we see the world in 3D, but the images that hit our eyes are actually 2D, like a flat picture. Our brain is pretty smart and uses different tricks to figure out which objects are close and which are far away. Here are some of these tricks:




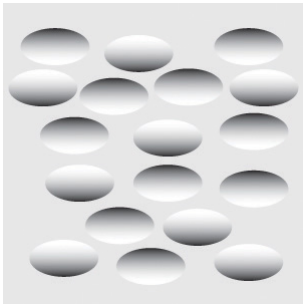
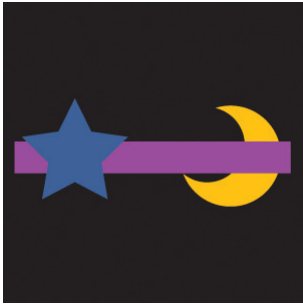

- Position: If something is higher up in what we see, our brain thinks it's farther away. Like when you look at a row

of fence posts, the ones higher up seem further back.

- **Relative Size:** When we know objects are usually the same size, the smaller ones look farther away. This is because cars far down the road look tiny compared to the ones close to us.
- **Linear Perspective:** Lines that we know are parallel, like train tracks, seem to come together in the distance. This helps us think that they are going far away from us.
- **Light and Shadow:** We get more light bouncing off things that are closer. Since light usually comes from above, objects with shadows look more 3D. For example, bumps and dents can be told apart by how they're shaded.
- **Interposition:** If one object blocks part of another, we see the blocking object as closer. Like if a star shape covers part of a bar, the star seems nearer to us.
- **Aerial Perspective:** Things far away might look fuzzy or covered in smog, which makes them seem further back. Artists use this trick to make distant clouds in paintings look far away.

All these tricks work together to help our brain understand depth and distance, making the world around us look 3D even though the images on our retinas are flat.

Table SUP SP.2. Monocular depth cues that help us judge depth at a distance.

Name	Description	Example	Image
Position	We tend to see objects higher up in our field of vision as farther away.	The fence posts at right appear farther away not only because they become smaller but also because they appear higher up in the picture.	
Relative Size	Assuming that the objects in a scene are the same size, smaller objects are perceived as farther away.	At right, the cars in the distance appear smaller than those nearer to us.	
Linear Perspective	Parallel lines appear to converge at a distance.	We know that the tracks at right are parallel. When they appear closer together, we determine they are farther away.	
Light and Shadow	The eye receives more reflected light from objects that are closer to us. Normally, light comes from above, so darker images are in shadow.	We see the images at right as extending and indented according to their shadowing. If we invert the picture, the images will reverse.	
Interposition	When one object overlaps another object, we view it as closer.	At right, because the blue star covers the pink bar, it is seen as closer than the yellow moon.	
Aerial perspective	Objects that appear hazy, or that are covered with smog or dust, appear farther away.	The artist who painted the picture on the right used aerial perspective to make the clouds more hazy and thus appear farther away.	

## Image Attributions

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# SP.7: Deep Dive - Pitch Perception and Sound Localization

Approximate reading time: 10 minutes

Different frequencies of sound waves are associated with differences in our perception of the pitch of those sounds. Low-frequency sounds are lower pitched, and high-frequency sounds are higher pitched. How does the auditory system differentiate among various pitches?

Several theories have been proposed to account for pitch perception. We'll discuss two of them here: temporal theory and place theory.

The temporal theory of pitch perception asserts that frequency is coded by the activity level of a sensory neurone. This would mean that a given hair cell would fire action potentials related to the frequency of the sound wave. Sometimes, we refer to this as phase-locking. While this is a very intuitive explanation, we detect such a broad range of frequencies (20–20,000 Hz) that the frequency of action potentials fired by hair cells cannot account for the entire range. Because of properties related to sodium channels on the neuronal membrane that are involved in action potentials, there is a point at which a cell cannot fire any faster (Shamma, 2001).

The place theory of pitch perception suggests that different portions of the basilar membrane are sensitive to sounds of different frequencies. More specifically, the base of the basilar membrane responds best to high frequencies and the tip of the basilar membrane responds best to low frequencies. Therefore, hair cells that are in the base portion would be labeled as high-pitch receptors, while those in the tip of the basilar membrane would be labeled as low-pitch receptors (Shamma, 2001). We call this place coding.

In reality, both theories explain different aspects of pitch perception. At frequencies less than 3000 Hz, it is clear that both the rate of action potentials (phase-locking) and place contribute to our perception of pitch. However, much higher frequency sounds (greater than 3000 Hz) can only be encoded using place cues (Shamma, 2001).

Watch this video: [Tricky Topics: Auditory Discrimination \(6 minutes\)](#)



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<https://opentextbc.ca/psychologymtdisupplement/?p=85#oembed-1>

“Tricky Topics: Auditory Discrimination” video by FirstYearPsych Dalhousie is licensed under the Standard YouTube licence.

## Sound Localization

The ability to locate sound in our environments is an important part of hearing. Localising sound could be considered similar to the way that we perceive depth in our visual fields. Like the monocular and binocular cues that provided

information about depth, the auditory system uses both monaural (one-eared) and binaural (two-eared) cues to localize sound.

Each pinna interacts with incoming sound waves differently, depending on the sound's source relative to our bodies. This interaction provides a monaural cue that is helpful in locating sounds that occur above or below and in front or behind us. The sound waves received by your two ears from sounds that come from directly above, below, in front, or behind you would be identical; therefore, monaural cues are essential (Grothe, Pecka, & McAlpine, 2010).

Binaural cues, on the other hand, provide information on the location of a sound along a horizontal axis by relying on differences in patterns of vibration of the eardrum between our two ears. If a sound comes from an off-center location, it creates two types of binaural cues: interaural level differences and interaural timing differences. Interaural level difference refers to the fact that a sound coming from the right side of your body is more intense at your right ear than at your left ear because of the attenuation of the sound wave as it passes through your head. Interaural timing difference refers to the small difference in the time at which a given sound wave arrives at each ear (Figure SAP.20). Certain brain areas monitor these differences to construct the place along a horizontal axis at which a sound originates (Grothe et al., 2010).



*Figure SUP SP.7. Sound localization. The ability to locate sound in our environments is an important part of hearing. If the sound comes from an off-center location, it creates two types of binaural cues: interaural level differences and interaural timing differences.*

## Image Attributions

Figure SUP SP.7. Sound localization by Rachel Lu is licensed under a [CC BY-NC-SA license](#).

# SP.8: Deep Dive - Do You Want to Try the Olfactory Enrichment Technique for Your Studying?

Approximate reading time: 2 minutes

1. **Select Appropriate Scents:** Choose essential oils that are known for their cognitive benefits. Based on the study by Cynthia Woo et al. (2023), consider using scents like rose, orange, eucalyptus, lemon, peppermint, rosemary, and lavender. These scents have been shown to have a positive impact on cognitive performance.
2. **Create a Consistent Olfactory Environment:** Set up a study space where you can consistently expose yourself to these scents. This could be done through the use of essential oil diffusers, scented candles, or oil burners. Ensure the scent is noticeable but not overwhelming.
3. **Incorporate Nighttime Exposure:** Since the study highlighted the benefits of nighttime exposure to these scents, consider using a diffuser in your bedroom while you sleep. This can help stimulate the uncinate fasciculus, a brain area crucial for memory and learning.
4. **Combine with Effective Study Techniques:** While olfactory enrichment can aid cognitive function, it should be combined with effective study habits. This includes regular review of material, active learning techniques like summarising and teaching the material, and ensuring adequate sleep and exercise.
5. **Monitor Your Progress:** Just as in the study, it's important to assess the effectiveness of this strategy. Keep track of your grades and cognitive performance throughout the period of olfactory enrichment. Note any changes in memory, focus, or overall academic performance.
6. **Maintain General Brain Health:** Remember that overall brain health is also crucial for cognitive performance. This includes a balanced diet, regular physical activity, adequate sleep, and mental exercises.
7. **Be Patient and Consistent:** The study conducted over 6 months showed significant results, indicating that this is not an overnight solution. Be patient and consistent with the use of olfactory enrichment.
8. **Consult with a Healthcare Professional:** If you have any concerns or health conditions, especially related to allergies or respiratory issues, consult with a healthcare professional before starting an olfactory enrichment routine.

# SP.9: Case study - Interoception: Ruòxī is Anxious About Her Job Search

Approximate reading time: 2 minutes

Ruòxī just finished her degree in Psychology and is looking for her first job. Her journey is a great example of how interoception plays a role in our lives.

- Interoceptive awareness: As she got ready for her first job interview, Ruòxī's heart was racing. She knew this meant she was nervous, which helped her get ready mentally for the interview.
- Interoceptive coherence: While writing cover letters, Ruòxī started to feel irritable. Then she heard her stomach growl — she had forgotten to eat lunch! Her hunger was making her grumpy.
- Interoceptive attention tendency: Ruòxī often checked how alert she felt, especially when working on her resume late at night. She was good at noticing when she was too tired to continue.
- Interoceptive sensitivity: During a stressful group interview, Ruòxī could feel her heartbeat change. She used this signal to help herself stay calm.
- Interoceptive accuracy: Once, Ruòxī had a stomach ache before an interview. She knew it was because she was anxious, not sick or hungry.
- Interoceptive sensibility: Whenever Ruòxī felt a headache starting, she was confident it was because of the stress from job hunting.
- Interoceptive regulation: Before each interview, Ruòxī did deep breathing exercises to manage her nerves. This helped her stay calm.

Ruòxī's story shows us how understanding and managing our body's signals can make a big difference in challenging situations.

# SP.10: Deep Dive - How to Grow Your Interoception Superpowers

Approximate reading time: 1 minute

Here are four simple activities to help you get better at understanding your body's signals:

1. **Meditate:** Start with mindfulness meditation. Find a quiet place, sit down, and pay attention to your breathing. Notice how your breath feels and any other sensations that come up.
2. **Body scan exercise:** Lie down and slowly focus on each part of your body, from your toes to your head. See if you feel any tension or discomfort and just be aware of it.
3. **Yoga or tai chi:** These exercises are like moving meditations. They help you focus on your body's movements and feelings.
4. **Check in with yourself:** Several times a day, stop for a moment and ask yourself, "What am I feeling right now?" Try to name the feelings and sensations you notice.

Remember, this is about getting to know yourself better. Be patient and kind to yourself as you learn.

# CHAPTER 6. STATES OF CONSCIOUSNESS

# SC.1: Deep Dive - Step 1: Rohan Conducts an Intake Interview with Aria

Approximate reading time: 3 minutes

Table SUP SC.1 Rohan conducts an intake interview with Aria

Intern Rohan's Questions	Client Aria's Answers
What time do you usually go to bed and wake up, both on weekdays and weekends?	Usually around 2 AM on weekdays, 3 AM on weekends. Wake up at 8 AM for classes.
How long does it typically take you to fall asleep?	It takes me about 30-45 minutes to fall asleep.
Do you often wake up during the night? If so, how long does it take to fall back asleep?	Yes, I often wake up 2-3 times a night, and it takes about 15 minutes to fall back asleep.
Do you wake up feeling rested in the morning, or do you feel tired?	I feel tired and groggy most mornings.
Do you take naps during the day? If so, how often and for how long?	I sometimes nap in the afternoon, about 20-30 minutes.
How often and how long before bed do you use electronic devices like your phone, tablet, or computer?	I use my phone or laptop right until I go to bed.
How much caffeine or energy drinks do you consume, and at what times of the day?	I drink about 2-3 energy drinks daily, mostly in the morning and afternoon.
Do you use alcohol or cannabis? If so, how often and how close to bedtime?	I occasionally drink alcohol or use cannabis in the evening to relax.
Can you describe your typical daily diet? Do you eat late at night?	My diet is irregular, often fast food and late-night snacks.
What does your exercise routine look like? How often and what time of day do you exercise?	I don't have a regular exercise routine.
Do you experience stress or anxiety? Can you describe what typically causes these feelings?	I'm often stressed about university work and personal issues.
What are your thoughts like when you try to sleep? Do you find yourself worrying or thinking about specific things?	I worry about my studies and future plans when trying to sleep.
How would you describe your overall mood and well-being lately?	I've been feeling more anxious and less happy lately.
Do you have any known medical conditions or currently taking any medications?	No known medical conditions. Not on any medication.
Is there a history of sleep issues or insomnia in your family?	No family history of sleep issues.
Can you describe your sleeping environment? Is it quiet and dark? Do you find your bed comfortable?	My dorm room is often noisy, and I have a lot of light coming in from the street.
Are there any noises or disturbances that might affect your sleep, like a noisy roommate or street noise?	Yes, there's street noise and sometimes noise from my roommate.
What are your goals regarding your sleep? What would you like to achieve?	I want to fall asleep faster and sleep through the night.
Have you tried any methods or treatments for your insomnia before? If so, what were they and how effective were they?	I've tried using sleep apps and listening to calming music, but they haven't helped much.

# SC.2: Case Study - Air Traffic Control

Approximate reading time: 2 minutes

Air traffic controllers are responsible for monitoring and directing the movement of aircraft in the sky and on the ground, a task that heavily relies on vigilance. Following are the ways in which this scenario illustrates the seven key aspects of vigilance.

- **Sustained Attention:** Air traffic controllers must maintain continuous focus on their radar screens and communication channels. This sustained attention is crucial for ensuring the safe movement of aircraft, demonstrating that vigilance requires ongoing concentration to detect important events.
- **Signal Detection:** Controllers are trained to detect specific signals, such as aircraft icons and flight data, on their radar screens. Identifying these signals among a plethora of other screen information demonstrates the signal detection required in vigilance tasks that must identify specific, infrequent stimuli.
- **Mental Endurance:** The task of monitoring and directing air traffic is mentally taxing, requiring controllers to stay alert for long periods. This endurance requires mental stamina often involved in repetitive and monotonous activities.
- **Error Sensitivity:** Mistakes made by air traffic controllers, such as misinterpreting radar data or giving incorrect instructions to a pilot, can have severe consequences, including the risk of mid-air collisions or other accidents.
- **Vigilance Decrement:** Over time, an air traffic controller's ability to stay alert and effectively monitor aircraft might decrease, a phenomenon known as vigilance decrement. This decrement, characterized by a gradual decline in the detection of critical signals, is a well-documented challenge in vigilance tasks. This could mean slower reaction times or a reduced capacity to notice sudden changes on the radar.
- **Psychophysiological Factors:** Factors like fatigue, stress, or boredom can significantly impact an air traffic controller's performance.
- **Environmental and Task Influences:** The complexity of the airspace, the number of aircraft, weather conditions, and other environmental factors can significantly affect an air traffic controller's ability to maintain vigilance.

# SC.3: Deep Dive - Early Birds and Night Owls

Approximate reading time: 2 minutes

Circadian rhythms usually sync well with our external environment for most of us. Typically, we sleep at night and stay awake during the day if we are not on shift work or raising an infant. Not everyone's sleep-wake cycle is the same, however. Some of us are morning people, or "early birds," while others are "night owls," more active in the evening. These personal patterns in daily activity levels are known as our chronotype. Studies have found that early birds and night owls differ in how their sleep is regulated (Taillard, Philip, Coste, Sagaspe, & Bioulac, 2003). Sleep regulation is all about how the brain manages the transition between being asleep and awake, and how it aligns this cycle with the external world.

## Early birds vs Night Owls

- Early birds and night owls differ in their circadian rhythms and environmental factors, affecting their morningness-eveningness preferences (Marvel-Coen, Scrivner, & Maestriperi, 2018).
- Early birds experience circadian arousal peaks earlier in the morning than night owls, impacting their performance on various tasks (Jun, McDuff, & Czerwinski, 2019).
- Night owls are compromised earlier in the day compared to early birds, showing impaired cognitive and physical performance (Facer-Childs, Boiling, & Balanos, 2018).

# SC.4: Deep Dive - Jet Lag: Coping Strategies

Approximate reading time: 10 minutes

Jet lag, a disruption of our circadian rhythms due to rapid travel across time zones, manifests in symptoms like fatigue, mood changes, and sleep disturbances (Sack, 2017). This misalignment between our internal biological clock and the external environment impacts not only our sleep patterns but also cognitive and physical health. Studies have shown that jet lag can impair memory and learning (Song et al., 2018), and affect the gastrointestinal system (Lei et al., 2019), indicating its extensive influence on bodily functions.

An evidence-based method for dealing with jet lag involves light therapy, which is recognized for its effectiveness in resetting our internal clocks. Exposure to light plays a crucial role in adjusting our circadian rhythms. A study by Burgess et al. (2018) demonstrated that controlled exposure to bright light (Figure SUP SC.1) can significantly reduce the symptoms of jet lag. This approach involves exposing oneself to light at specific times that align with the new time zone, thereby aiding the body's adjustment process. Additionally, gradual adjustments to sleep schedules before traveling and strategic napping during the journey can also help mitigate the effects of jet lag (Herxheimer, 2017; Riemann et al., 2017).



*Figure SUP SC.1. Circadian cycles. Devices like this are designed to provide exposure to bright light to help people maintain a regular circadian cycle. They can be helpful for people working night shifts or for people affected by seasonal variations in light.*

Bright light therapy can also be helpful for people working on rotating shifts (Harrington, 2010; Kori, Yamaguchi, & Okamura, 2017; Revell, Molina, & Eastman, 2012). Since our biological clock is influenced by light, being exposed to bright light while working and avoiding light when off duty can help fight insomnia and reduce anxiety and depression (Huang, Tsai, Chen, & Hsu, 2013). Bright light therapy's effectiveness can vary, and it may have negative effects if used too much or inappropriately (Albrecht & Ripperger, 2018; Rea, Bierman, Figueiro, & Bullough, 2008; Lunn et al., 2017).

Watch this video: [What is Jetlag? – Naked Science Scrapbook \(6 minutes\)](#)



One or more interactive elements has been excluded from this version of the text. You can view them online here:  
<https://opentextbc.ca/psychologymtdisupplement/?p=102#oembed-1>

“What is Jetlag? – Naked Science Scrapbook” video by NakedScientists is licensed under the Standard YouTube licence.

## Image Attributions

Figure SUP SC.1. [Light therapy device Philips HF3319/01 Energy Light. Light intensity compared to indirect daylight in the shade, filtered through white curtains \(circa 11.00 a.m.\)](#) By [Sillu](#) – own work – is in the [Public Domain](#).

# SC.5: Deep Dive - Dangers of Driving Drowsy

Approximate reading time: 5 minutes

This article shares the [dangers of driving drowsy and some best practices for staying safe](#) on the road if you're tired.

This article warns that [driving while drowsy can be deadly](#).

# SC.6: Deep Dive - Dreams

Approximate reading time: 91 minutes

## Understanding Dreams: Culture, Religion, and Psychology

Dreams have long been a subject of fascination and intrigue across various cultures and religions around the world. They have been perceived as mystical messages, omens, or even portals to other realms. In many world religions and cultures, dreams hold significant spiritual and psychological importance, often seen as a means of divine communication or a reflection of the inner self.

In the realm of psychology, dreams are viewed through various lenses. Modern psychology examines dreams to understand the workings of the subconscious mind, emotional states, and even as potential indicators of psychological disorders. This intersection of cultural, religious, and psychological perspectives on dreams offers a rich field of study, blending ancient wisdom with contemporary scientific inquiry.

From a religious standpoint, dreams have been integral to the narratives of many faiths. In Islam, dreams are considered a form of spiritual insight, with some being seen as messages from God (Rahman & Rashid, 2019). Similarly, in Christianity, dreams have often been interpreted as divine messages, as seen in the biblical stories of Joseph and Daniel (Green, 2017). Hinduism also places significant emphasis on dreams, viewing them as symbolic and sometimes prophetic, reflecting one's karma and life path (Patel, 2018).

Culturally, the interpretation and significance of dreams vary widely. Indigenous cultures, such as the Native Americans, have traditionally viewed dreams as a connection to the spiritual world and a source of guidance and wisdom (Wilson & Yellow Bird, 2017). In African cultures, dreams are often seen as a means of communication with ancestors and the spiritual realm (Adams & Kambon, 2019).

In psychology, the study of dreams has evolved significantly since the days of Freud and Jung. Contemporary research often focuses on the neurological aspects of dreaming, exploring how dreams are formed in the brain and their potential functions in processing emotions and memories (Hobson & Pace-Schott, 2017).

The study of dreams, therefore, presents a unique convergence of spirituality, culture, and science. It offers a fascinating glimpse into the human psyche, reflecting both our deepest spiritual beliefs and our growing understanding of the human brain and its functions. Let's take a look at several dream theories by Sigmund Freud, Carl Jung, Rosalind Cartwright, Alan Hobson as well as some empirical research by neuroscientists.

## When Can Dreaming Occur?

- REM Sleep: Most dreaming occurs during REM sleep, characterized by rapid eye movements and brain wave patterns similar to wakefulness. This stage is known for vivid dreaming. (Hobson, 2001; Vogel & Traub, 1968; Pagel, 2008; Cohen, 1976; Hobson, Pace-Schott, & Stickgold, 2000)
- Non-REM Sleep (Stages 1 and 2): Dreaming can also occur during non-REM sleep, particularly in stages 1 and 2. Stage 1 is associated with theta waves and is a transitional phase between wakefulness and sleep. Stage 2 is

characterized by sleep spindles and K-complexes. (Hobson, 2001; Zhang & Wamsley, 2019; Stenstrom, Fox, Solomonova, & Nielsen, 2012; Onheiber, White, DeMyer, & Ottinger, 1965; Pagel, 2014)

- Non-REM Sleep (Stage 3): Dreaming can occur during stage 3 of non-REM sleep, often referred to as deep sleep or slow-wave sleep, characterized by delta waves. (Waldbaum, 1969; Henry, 2020)

## Understanding Dreams: Psychological Theories

Sigmund Freud thought people could increase self-awareness and gain valuable insight to help them deal with the problems they faced in their lives. Freud made distinctions between the manifest content and the latent content of dreams. Manifest content is the actual content, or storyline, of a dream. Latent content, on the other hand, refers to the hidden meaning of a dream. For example, imagine you have a dream where you're flying. In the dream, you feel exhilarated and free, soaring above the landscape below without a care in the world. The manifest content of this dream is simply the act of flying. It's what happens in the dream, the storyline you remember when you wake up.

The latent content, or the hidden meaning of this dream, might represent a desire for freedom or escape from the pressures and constraints of your daily life. The sensation of flying freely could symbolize a longing to break free from restrictions and explore new possibilities.

Carl Jung believed that dreams allowed us to tap into the collective unconscious. The collective unconscious, as described by Jung, is a theoretical repository of information he believed to be shared by everyone. According to Jung, certain symbols in dreams reflected universal archetypes with meanings that are similar for all people regardless of culture or location.

Alan Hobson, a neuroscientist, is credited for developing activation-synthesis theory of dreaming. Early versions of this theory proposed that dreams were not the meaning-filled representations of angst proposed by Freud and others, but were rather the result of our brain attempting to make sense of ("synthesize") the neural activity ("activation") that was happening during REM sleep. Recent adaptations (e.g., Hobson, 2002) continue to update the theory based on accumulating evidence. For example, Hobson (2009) suggests that dreaming may represent a state of protoconsciousness. In other words, dreaming involves constructing a virtual reality in our heads that we might use to help us during wakefulness. Among a variety of neurobiological evidence, John Hobson cites research on lucid dreams as an opportunity to better understand dreaming in general. Lucid dreams are dreams in which certain aspects of wakefulness are maintained during a dream state. In a lucid dream, a person becomes aware of the fact that they are dreaming, and as such, they can control the dream's content (LaBerge, 1990).

Rosalind Cartwright believes that dreams simply reflect life events that are important to the dreamer. Unlike Freud and Jung, Cartwright's ideas about dreaming have found empirical support. For example, she and her colleagues published a study in which women going through divorce were asked several times over a five-month period to report the degree to which their former spouses were on their minds. These same women were awakened during REM sleep to provide a detailed account of their dream content. There was a significant positive correlation between the degree to which women thought about their former spouses during waking hours and the number of times their former spouses appeared as characters in their dreams (Cartwright, Agargun, Kirkby, & Friedman, 2006).

# Understanding Dreams: Neuroscience Research

Recent research has consistently shown that our daily experiences, especially those that are emotionally significant, often influence our dream content. This connection suggests that dreaming may be a process where we integrate and process memories and emotions from our waking life (Eichenlaub, Cash, & Blagrove, 2017; Schredl, 2017; Schredl & Hofmann, 2003). Moreover, the emotional content of our dreams often reflects our waking emotions (Schredl & Wittmann, 2005). Studies have found that individuals with a peaceful and content waking life tend to experience more positive dreams, while those with anxiety are more likely to have negative dreams (Sikka, Pesonen, & Revonsuo, 2018). Additionally, recent research (Horikawa, Tamaki, Miyawaki, & Kamitani, 2013) has uncovered new techniques by which researchers may effectively detect and classify the visual images that occur during dreaming by using fMRI for neural measurement of brain activity patterns, opening the way for additional research in this area. All together, these findings above collectively highlight the connection between our waking and dreaming states, suggesting that dreams are more than random images; they are a reflection and extension of our daily lives and emotional experiences.

Watch this video: [The Dreaming Mind: Waking the Mysteries of Sleep \(82 minutes\)](#).

Note: This is an excellent question and answer interview with three dream experts. It is also long. The duration is 1 hour and 22 minutes.



One or more interactive elements has been excluded from this version of the text. You can view them online here: <https://opentextbc.ca/psychologymtdisupplement/?p=106#oembed-1>

“The Dreaming Mind: Waking the Mysteries of Sleep” video by World Science Festival is licensed under the Standard YouTube licence.

Where do our dreams come from, why do we have them, and what do they mean? Can we harness them to foster creativity, solve problems, and prepare for the future? What’s happening in the brains of so-called lucid dreamers, and can new developments in this cutting-edge field of research help us unlock the mystery of consciousness itself? Researchers Deirdre Barrett, Ken Paller, and Antonio Zadra join Brian Greene for a discussion about the mystery and power of dreams and where our minds go after midnight.

# SC.7: Deep Dive - What Makes Insomnia Worse or Better?

Approximate reading time: 27 minutes



*Figure SUP SC.2. Blue light. A child's face lit up by the blue light of the computer screen they are watching.*

## 1. Blue Light

Exposure to the blue light from screens like your phone or computer can make it harder to sleep, by lowering your body's level of melatonin, a hormone that helps you sleep (Heo et al., 2017). Nighttime use of devices that emit blue light might make it harder to fall asleep and stay asleep (Driller & Uiga, 2019), a common issue for students who often use their devices late at night (Jniene et al., 2019).

However, there are ways to mitigate this problem. Wearing glasses with orange or amber lenses while using blue-light screens before bed can help you fall asleep faster and sleep better (Shechter et al., 2020). The night-mode setting on your smartphone reduces blue light exposure and helps to maintain your melatonin levels (Terán et al., 2020). Reducing blue light from your phone at night can also improve your sleep quality (Randjelović et al., 2023). Managing blue light exposure from screens is crucial for good sleep, especially for young adults and students.

## 2. Energy Drinks and Caffeine

Energy drinks and caffeine often become go-to solutions for staying awake and alert. However, recent research suggests that this might come at a cost to sleep quality. Faris et al. (2017) found a notable link between energy drink consumption and poorer sleep among college students. Recent studies consistently show that energy drinks negatively affect sleep quality and patterns. Energy drink consumption is linked to poor sleep quality, increased sleep latency, and reduced sleep duration among various groups, including bus drivers (Erdogan & Kurçer, 2019), college students (Patrick, Griffin, Huntley, & Maggs, 2018; Faris et al., 2017), and adolescents (Park, Lee, & Lee, 2016; Robby & Sanad, 2017). This insight is crucial, considering the importance of sleep for academic performance and overall well-being.

The impact of caffeine extends beyond college campuses. Galland et al. (2017) observed that when adolescents consume caffeine after dinner, it can lead to inefficient sleep and a feeling of tiredness the next day. This finding highlights the sensitivity of younger individuals to caffeine, especially in the evening.

Yamasaki et al. (2023) discovered that boys who frequently consume energy drinks tend to have later bedtimes on school nights, potentially disrupting their natural sleep-wake cycles. This alteration in sleep patterns can have ripple effects on their daily functioning. Moreover, Koivusilta et al. (2016) pointed out that young teens who regularly drink energy drinks are more likely to experience sleep disturbances. This suggests a broader impact of these beverages on adolescent sleep health.

Interestingly, van Batenburg-Eddes et al. (2014) expanded the conversation by suggesting that regular consumption of energy drinks might not just affect sleep but also impact cognitive functions related to planning and decision-making in young adolescents. This connection between diet, sleep, and cognitive functions is a fascinating area for further exploration in psychology.

## 3. Alcohol

Recent studies from 2017 to 2022 have taught us a lot about how drinking alcohol affects our sleep. Altman, Eyal, and Baharav (2018) found that alcohol might help you fall asleep faster, but it makes your sleep worse overall. You might wake up more often and not sleep as deeply. Zheng et al. (2020) discovered that people who drink more alcohol tend to have worse sleep, snore more, and sleep for less time. Devenney, Coyle, Roth, and Verster (2019) also said that drinking a lot of alcohol can negatively impact your sleep, which can make you feel worse the next day and less active. Helaakoski et al. (2022) noticed that if you drink a lot over time, your sleep quality gets worse because you have to get up to urinate during the night. They also found that different drinking habits, like drinking a lot at once or often, can lead to bad sleep. Lastly, Choi, Park, and Cho (2018) pointed out that certain ways of drinking, like drinking once a week or more, can make sleep quality worse.

So, these studies all show that while alcohol might seem to help you fall asleep, it actually makes your sleep quality worse. This is important to know for your health and well-being.

## 4. Cannabis: THC and CBD

### Facilitating Sleep Initiation

Cannabis, especially its THC component, appears to help with falling asleep. A study by Altman et al. (2019) found that participants expected cannabis to decrease sleep-related problems, including falling asleep more quickly. Choi et al. (2020) also noted the potential therapeutic benefits of cannabis in managing sleep disorders like insomnia.

### Effects on Sleep Stages

Cannabis use modifies sleep, with high-THC and negligible CBD cannabis potentially promoting NREM sleep, as observed by Mondino et al. (2021). This aligns with the findings of Ried et al. (2022), who reported that medicinal cannabis oil was effective in improving sleep in adults with insomnia.

### Tolerance and Long-term Use

Over time, individuals may develop tolerance to the sleep-inducing effects of cannabis, leading to greater use for the same effects (Babson & Bonn-Miller, 2014). This suggests that while cannabis can be beneficial for sleep initiation, its long-term effectiveness might be limited.

### Cannabis Withdrawal and Sleep Disturbance

Withdrawal from chronic cannabis use can have sleep-disruptive effects, as highlighted by Kesner & Lovinger (2020). This is consistent with earlier findings that marijuana withdrawal affects both objective and subjective measures of sleep (Conroy & Arnedt, 2014).

### Preference for High CBD Strains

Individuals with insomnia and greater sleep latency are more likely to use strains of cannabis with higher concentrations of CBD, as found by Belendiuk et al. (2015). This preference might be due to CBD's potential therapeutic effects on sleep.

### CBD and Circadian Rhythm

CBD has been shown to deregulate circadian rhythm in microglial cells, which is consistent with clinical observations of the use of therapeutic cannabis to treat insomnia (Lafaye et al., 2018).

In summary, recent research supports the notion that short term cannabis use can aid in sleep initiation and affect sleep stages, but its long-term use and withdrawal can lead to sleep disturbances. The preference for high CBD strains and the potential therapeutic effects of CBD on sleep further highlight the complex relationship between cannabis and sleep.

## 5. Stress

Recent studies from 2017 to 2022 have closely examined how stress and anxiety can affect our sleep. Alqahtani et al. (2022) found that high stress levels are likely to result in poor sleep quality, meaning you might not sleep well or feel rested. Luo et al. (2021) saw that, in general, stress can lead to feelings of anxiety and depression, and worsen sleep quality – an effect that is especially true for health care workers. Tsang et al. (2021) also noticed that increased stress and anxiety tend to result in less and poorer quality sleep.

Zhao et al. (2020) discovered that higher stress levels often accompany increased anxiety, leading to lower sleep quality. Zou et al. (2020) pointed out that poor sleep quality is connected to feelings of depression, anxiety, and stress. Liu et al. (2021) showed that graduates in China who experienced high stress and anxiety during the COVID 19 pandemic had trouble sleeping. Bulut et al. (2022) found that sleep quality is worse when people feel anxious, depressed, or have trouble sleeping.

These studies collectively indicate that stress and anxiety significantly affect sleep quality. Managing these emotions is crucial for better sleep.

## 6. Exercise

Exercise helps us sleep better. Moderate aerobic exercise has been found to improve sleep quality, particularly in individuals with chronic primary insomnia (Passos et al., 2011). A meta-analytic review by Kredlow et al. (2015) highlighted that both acute and regular exercise have small beneficial effects on total sleep time, sleep efficiency, and sleep quality. Xie et al. (2021) found that engaging in physical exercises, like running, and mind-body exercises, like yoga, significantly improves adults' sleep quality. This includes faster sleep onset and deeper sleep. Park et al. (2021) also found that regular exercise can enhance deep sleep, known as slow-wave sleep, making it more stable. Deep sleep is essential for feeling rested. Furthermore, Hartescu, Morgan, and Stevinson (2015) found that minimum levels of physical activity significantly reduced insomnia symptom severity and improved daytime and nighttime symptoms in inactive people with chronic insomnia.

For specific groups, exercise also proves beneficial. Yang et al. (2020) showed that pregnant women sleep better if they exercise, although it doesn't always help with insomnia. People with Parkinson's disease also sleep better with exercise, as Cristini et al. (2020) found. And Chen et al. (2020) discovered that people with lung cancer who exercise during the day, especially more than four hours before bed, sleep better and feel less tired. These studies demonstrate that exercise is highly effective in improving sleep quality. These findings collectively suggest that exercise, particularly moderate aerobic exercise, can positively impact sleep quality and duration, although the extent of these benefits can vary based on individual characteristics and exercise specifics.

## 7. Meditation

Recent research from 2017 to 2022 has shown that meditation can positively impact sleep quality. A study by Gobbo et al. (2023) found that meditation leads to significant improvements in total sleep time and sleep quality, particularly in individuals with chronic insomnia. Kanchibhotla et al. (2021) reported that Heartfulness Evolution Meditation (HEM) enhances sleep quality and duration, with effects lasting several weeks. Hausswirth et al. (2022) discovered that neuro-meditation reduces excessive sympathetic activity, which helps improve sleep quality and autonomic control during periods of increased work-related stress.

Furthermore, Black et al. (2015) observed that mindfulness meditation significantly improved sleep quality in older adults with moderate sleep disturbances. Wei et al. (2018) found that meditation relaxation therapy can improve sleep quality in breast cancer patients undergoing chemotherapy. Gong et al. (2016) noted that mindfulness meditation significantly improved total wake time and sleep quality in patients with insomnia. Meditation has also been shown to produce measurable changes in spontaneous brain activity, potentially leading to improved sleep quality (Ferrarelli et al., 2013).

In summary, various forms of meditation, including mindfulness and neuro-meditation, have been found to be effective in improving sleep quality in different populations, including those with chronic insomnia, work-related stress, and cancer.

## 8. Food

Recent studies from 2017 to 2022 have shown that our diet can significantly affect our sleep quality. Different diets can alter our sleep patterns. For instance, diets high in carbs and low in fat, or those low in carbs, can affect deep sleep stages and rapid eye movement (REM) sleep (St-Onge, Mikic, & Pietrolungo, 2016). In older people in Japan, a varied diet and good appetite were linked to better sleep (Yamamoto et al., 2019). Conversely, people with poor sleep often consumed unbalanced diets, high in sweets, and sugary drinks (Ramón-Arbués et al., 2022).

Following a Mediterranean diet, rich in fruits, vegetables, whole grains, and olive oil, is associated with better sleep (Godos et al., 2019; Campanini et al., 2017). Conversely, excessive consumption of processed and sugary foods can lead to poorer sleep (Godos et al., 2021). In China, adults with lower incomes who consumed a lot of meat experienced more sleep difficulties (Wu et al., 2018).

Different groups and situations also demonstrate this diet-sleep connection. During lockdowns, people who ate more experienced shorter and poorer sleep (Papazisis, Nikolaidis, & Trakada, 2021). For children, unhealthy eating habits and excessive snacking, especially after dinner, were linked to poor sleep (Khan et al., 2017). Interestingly, a diet higher in fat was associated with better sleep compared to diets rich in other nutrients (Lindseth & Murray, 2016). In Japan, college students who followed the Japanese Food Guide Spinning Top, a balanced eating guide, slept better (Yamamoto et al., 2018).

These studies highlight a strong link between diet, sleep quality, and overall health. Considering our diet is important when thinking about our sleep and health.

## 9. Napping

For first-year university students grappling with insomnia, understanding the impact of napping on sleep quality is crucial. Recent studies offer a nuanced view. Mograss et al. (2022) found that frequent and late napping can lead to fragmented nighttime sleep, meaning that it might take longer to fall asleep, and you could wake up more often. This could be particularly relevant for students experiencing irregular sleep patterns.

However, there's also evidence suggesting benefits of napping under certain conditions. Boukhris et al. (2019) observed that a 45-minute daytime nap could improve physical performance and reduce the feeling of tiredness. For student athletes or those engaged in physical activities, this might be beneficial. Similarly, Lastella et al. (2021) noted that napping for 20 to 90 minutes, especially in the early afternoon, can enhance both physical and cognitive performance, which could be advantageous for academic and athletic pursuits.

Yet, it's important to consider the potential risks. Zhou et al. (2019) and Liu et al. (2018) highlighted that long sleep durations, including extended midday naps, are linked to higher risks of health issues like stroke and type 2 diabetes. This is crucial for students to consider, especially if they have a habit of long napping. Li et al. (2018) further suggested that a balanced approach of 7-8 hours of night sleep with minimal or no daytime napping could lower the risk of stroke, indicating the importance of maintaining a regular sleep schedule.

In summary, while napping can offer benefits like improved performance and reduced tiredness, its impact on nighttime sleep and overall health varies. Students with insomnia should consider these findings to better manage their sleep patterns and overall well-being.

## 10. Noisy Environment

Recent studies have shown that the environment around us, especially the noise level, can significantly affect our sleep quality. For example, Xu et al. (2021) found that during summer, factors like high temperature, increased CO2 levels, and loud noises can worsen our sleep. This seems to be more problematic for men. Delaney et al. (2018) discovered that patients in hospitals don't sleep well due to environmental noise. This is similar to what Foulkes et al. (2019) observed with university students, where noise from roommates and academic stressors made it difficult for them to sleep.

In workplaces, Lin et al. (2018) noticed that noise during the day can impair nighttime sleep quality, affecting the deep part of our sleep and sleep efficiency. Basner and Mcguire (2018) also found that noise from sources like cars and trains can disturb our sleep. Caddick et al. (2018) suggest that for optimal sleep, it's best to have a quiet environment (below 35 decibels of noise), a comfortable temperature (between 17 and 28°C), complete darkness, and no blue light. However, Rahimi et al. (2021) found that for people with insomnia, noise didn't significantly affect their sleep quality.

Watch this video: [HOW TO TREAT INSOMNIA – Reduce Anxiety – No More Sleepless Nights \(11 minutes\)](#)



One or more interactive elements has been excluded from this version of the text. You can view them online here: <https://opentextbc.ca/psychologymtdisupplement/?p=109#oembed-1>

“HOW TO TREAT INSOMNIA – Reduce Anxiety – No More Sleepless Nights” video by MEDSimplified is licensed under the Standard YouTube licence.

## Image Attributions

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# SC.8: Deep Dive - REM Sleep Behaviour Disorder (RBD)

Approximate reading time: 1 minute

REM sleep behaviour disorder (RBD) occurs when the muscle paralysis associated with the REM sleep phase does not occur. Individuals who suffer from RBD have high levels of physical activity during REM sleep, especially during disturbing dreams. These behaviours vary widely, but they can include kicking, punching, scratching, yelling, and behaving like an animal that has been frightened or attacked. Furthermore, these types of behaviours ultimately disrupt sleep, although affected individuals have no memories that these behaviours have occurred (Arnulf, 2012).

This disorder is associated with a number of neurodegenerative diseases such as Parkinson's disease. Clonazepam, an anti-anxiety medication with sedative properties, is most often used to treat RBD. It is administered alone or in conjunction with doses of melatonin (the hormone secreted by the pineal gland). As part of treatment, the sleeping environment is often modified to make it a safer place for those suffering from RBD (Zangini, Calandra-Buonaura, Grimaldi, & Cortelli, 2011).

# SC.9: Deep Dive - Narcolepsy

Approximate reading time: 1 minute

Unlike the other sleep disorders described in this section, a person with narcolepsy cannot resist falling asleep, often at inopportune times. These sleep episodes are often associated with cataplexy, which is a lack of muscle tone or muscle weakness, and in some cases involves complete paralysis of the voluntary muscles. Narcoleptic episodes take on other features of REM sleep. For example, around one third of individuals diagnosed with narcolepsy experience vivid, dream-like hallucinations during narcoleptic attacks (Chokroverty, 2010).

Generally, narcolepsy is treated using psychomotor stimulant drugs, such as amphetamines (Mignot, 2012). Narcolepsy is associated with reduced levels of the signalling molecule hypocretin in some areas of the brain (De la Herrán-Arita & Drucker-Colín, 2012; Han, 2012), and the traditional stimulant drugs do not have direct effects on this system.

# SC.10: Case Study - Worst Sleepover Ever! — A Fill-in-the-blank Study Game

Approximate reading time: 9 minutes

Excitement buzzes in the air as Zee and her seven friends, Amin, Bruno, Chen, Dot, Eli, Frey and Guy, pack their snowboarding gear for their much-anticipated winter getaway. The cabin is nestled in the heart of the snowy mountains and promises a perfect blend of adventure and relaxation. Zee, an avid snowboarder, looks forward to the thrilling slopes and the cozy evenings with her friends. The group laughs and jokes about who would be the first to master the trickiest runs. Little does Zee know, this trip will also turn into an impromptu sleep study, revealing the quirky and fascinating world of sleep!

Inside the cabin, a cozy warmth wraps around them, a stark contrast to the sunny, icy world outside. This exclusive cabin is not only a cozy haven for snowboarders but also a cutting-edge sleep clinic. On weekdays, it is a state-of-the-art sleep disorders retreat, equipped with the sleep lab technology. On weekends, it transforms into a charming snowboarding hotel, offering a unique experience for its guests.

The cabin's main attraction is its innovative sleeping quarters. The room is spacious yet intimate, with four sturdy wooden bunk beds, each designed to accommodate two people. The beds are not just ordinary resting places; they are equipped with special pillows embedded with sensors that can measure brain waves. Above each bed, a sleek digital headboard displays the sleeper's brainwave activity in real time (these magical pillows and headboard brain waves tech do not yet exist. Maybe you will want to be the one to invent them?). These displays are not intrusive but add a soft, ambient glow to the room, creating a futuristic yet comfortable atmosphere. Large windows offer breathtaking views of the snowy landscape outside, perfect for daydreaming about the next snowboarding adventure. For Zee and her friends, it is the perfect backdrop for their snowboarding trip and an unexpected journey into the world of sleep.

As Zee nestles into her bunk that first night, her mind is still buzzing with the day's adventures. Her hopes for a good night's sleep are dashed as, one by one, each of her friends begins to exhibit unique and curious sleep experiences, which turns the night into an unexpected series of textbook examples of various sleep behaviours and disorders.

1. Zee's friends fall asleep as soon as their heads hit the pillows. Zee has high hopes of doing the same. But her latest issues with sleep kick in. She has been having trouble getting to sleep. It seems that for 3-4 nights a week it takes her an hour or more to fall asleep. She has been having this problem for the last month or so. Zee has to face facts, she meets the clinical definition for \_\_\_\_\_.
2. While Zee tosses and turns, she glances at Amin's headboard and sees his brain waves transitioning from alpha to theta waves, with distinctive sleep spindles and K-complexes appearing on the display. Amin occasionally twitches and mumbles, typical of this sleep stage. Zee wonders, "Could this be Stage \_\_\_\_\_ sleep?"
3. Zee's attention is drawn away by Bruno's very loud snoring; it sounds like a chainsaw gone wild! Bruno's breathing is irregular. He snores loudly for what seems like hours but is actually about 10 minutes; then suddenly, there is silence — no breathing for a few moments, followed by a loud snort and a gasp for air. Bruno's brain waves fluctuate wildly during these moments, indicating disrupted sleep. Bruno's pattern of snoring, followed by periods of silence and then gasping for air, keeps Zee alert. "Bruno must have \_\_\_\_\_," Zee guesses, concerned.
4. As a way to take her mind off Bruno's situation, Zee glances over to Chen's sleep display. Their brain waves resemble those of someone who is awake, with low-amplitude, mixed-frequency waves. Zee observes rapid eye movements under Chen's closed eyelids. Chen occasionally smiles, frowns, and even laughs softly, as if deeply engaged in a vivid dream. Their face is lively, showing emotions as if in a vivid dream. "Could this be \_\_\_\_\_"

sleep?" Zee ponders.

5. Just then, Dot suddenly gets up and starts walking clumsily around the room. Dot seems to be searching for something, mumbling about finding the perfect snowboard bindings (these are used to attach the snowboarder's boots to the board. They should be compatible with the board and the boots.). Dot's brain waves show a mix of theta and delta waves (magically, the bed keeps recording brain waves even when Dot is out of bed), indicating that they are asleep and still able to move around. "This looks like \_\_\_\_\_," Zee thinks, intrigued.
6. Maybe disturbed by the nighttime movement in the cabin, Eli suddenly sits up, screaming and looking terrified. Eli is usually the fearless daredevil of the group, but apparently now they are facing unseen fears in their sleep. They are sweating and breathing heavily but do not seem to be fully awake. Eli's brain waves show delta waves, indicating deep sleep, but with sudden spikes of activity. Eli, eyes wide open but unseeing, starts shouting about being stuck in the wells of snow around trees. Falling into deep snow tree wells, which are hidden cavities covered by deep snow, formed around the bases of trees, poses a significant danger as individuals can become trapped, and suffocate due to the loose snow collapsing around them. The display shows deep sleep with delta waves, with sudden spikes during this intense episode. Zee, startled but also curious, thinks, "This intense reaction is probably \_\_\_\_\_. How is it that no one else is waking up with all this noise and commotion?"
7. Zee turns over and faces Frey who is in the bunk bed directly across from her. It turns out Frey is momentarily awakened by the noise but immediately tries to go back to sleep. Zee observes that every minute or so, Frey moves their legs, rubs them together or kicks the air, and tosses and turns in their bed. They seem uncomfortable and unable to find a restful position. Frey's brain waves indicate that they are in light sleep, with frequent shifts to wakefulness. Frey's continuous leg movements and the display showing light sleep with frequent awakenings captures Zee's attention. "Looks like Frey has \_\_\_\_\_," she notes, with confidence.
8. That leaves Guy who is sleeping on the top bunk on the other side of the cabin. Guy, always the model of tranquility, sleeps undisturbed, a stark contrast to the chaos around him. Guy's brain waves show slow delta waves, indicating deep, restorative sleep. Guy is completely still and deeply relaxed. He hasn't been disturbed by any of the noises or movements in the cabin. Guy shows no signs of dreaming or physical activity. His deep, undisturbed sleep, evident from the slow delta waves, makes Zee envious. "That's definitely Stage \_\_\_\_\_ sleep," she thinks, longing for such peace.
9. As 3am approaches, Zee realizes she's spent half the night analyzing her friends' sleep patterns. Though she's learned a lot about sleep stages and disorders, she can't help but wish for the peace of glorious sleep for herself. "Worst. Sleepover. Ever!" she thinks, chuckling inwardly. On the positive side, Zee appreciates having a newfound understanding of the complexities of sleep. Not long afterwards, Zee finally, almost miraculously, falls into a deep sleep for 4 uninterrupted hours.

Despite only catching a few hours of sleep, Zee awakes feeling surprisingly refreshed. The excitement of the day ahead that is sure to be filled with awesome snowboarding and laughter with her friends, fills her with energy. As she hits the slopes with her friends, Zee's sleep-deprived night becomes a weird but fond memory, a unique story to share around the campfire. It turns out that this trip is not only an awesome snowboarding adventure, but also an enlightening journey into the mysteries of sleep, making it the most memorable sleepover ever!

\*\*\*\*\*

Spoiler alert: Answers

\*\*\*\*\*

1. Zee: Insomnia

2. Amin: Stage 2 Sleep
3. Bruno: Sleep Apnea
4. Chen: REM Sleep
5. Dot: Sleepwalking
6. Eli: Night Terrors
7. Frey: Restless Leg Syndrome
8. Guy: Stage N3 deep sleep.

# SC.11: Deep Dive - Addicted to Caffeinated Soda

Approximate reading time: 2 minutes

Kromann and Nielson (2012) reported on a case study of a 40-year-old woman who suffered significant ill effects from her use of caffeine. The woman had used caffeine in the past to boost her mood and to provide energy but, over the course of several years, she increased her caffeine consumption to three litres of soda each day. Although she was taking a prescription antidepressant, her symptoms of depression continued to worsen and she began to suffer physically, displaying significant warning signs of cardiovascular disease and diabetes. Upon admission to an outpatient clinic for treatment of mood disorders, she met all of the diagnostic criteria for substance dependence and was advised to dramatically limit her caffeine intake. Once she was able to limit her use to less than 12 ounces of soda a day, both her mental and physical health gradually improved. Despite the prevalence of caffeine use and the large number of people who confess to suffering from caffeine addiction, this was the first published description of soda dependence appearing in scientific literature.

# SC.12: Deep Dive - Dopesick: TV Mini Series

Approximate reading time: 2 minutes

*Creator: Danny Strong*

*Starring: Michael Keaton, Peter Sarsgaard, Michael Stuhlbarg*

“Dopesick” is a television mini-series that explores the opioid crisis in the United States, particularly focusing on the impact of OxyContin, a prescription painkiller produced by Purdue Pharma. Here’s a brief description of each of the episodes:

1. **First Bottle:** Introduces the aggressive marketing of OxyContin in the late 1990s and its impact on a mining community.
2. **Breakthrough Pain:** Explores the growing addiction issues in the community and Purdue Pharma’s strategies to promote OxyContin.
3. **The 5th Vital Sign:** Highlights Purdue Pharma’s efforts to redefine pain treatment, impacting doctors’ prescribing habits.
4. **Pseudo-Addiction:** Examines the concept of “pseudo-addiction” promoted by Purdue Pharma to downplay addiction concerns.
5. **The Whistleblower:** Focuses on the efforts of a Purdue Pharma employee to expose the company’s misleading marketing practices.
6. **Hammer the Abusers:** Depicts the legal and personal struggles of those affected by OxyContin addiction and Purdue Pharma’s response to abuse claims.
7. **Black Box Warning:** Centres on the legal battles against Purdue Pharma and the FDA’s involvement in regulating OxyContin.
8. **The People vs. Purdue Pharma:** Concludes with the legal reckoning for Purdue Pharma and the personal and societal toll of the opioid crisis.

Each episode of “Dopesick” delves into different aspects of the opioid crisis, from the individual lives affected to the broader systemic and corporate actions that fueled the epidemic.

# SC.13: Deep Dive - More About the Effects of Hallucinogens

Approximate reading time: 4 minutes

## Serotonin System Interaction

LSD, Psilocybin, and DMT: These hallucinogens primarily affect the brain's serotonin system, particularly at the 5-HT<sub>2A</sub> receptors (Halberstadt & Nichols, 2020; Kim et al., 2020). Simply put, they bind to parts of brain cells that usually respond to serotonin, a key brain chemical influencing mood and perception. This binding leads to altered states of consciousness, often characterized by vivid visual hallucinations, altered thought processes, and a sense of deep spiritual or philosophical insight.

Psychological Impact: Users may experience intense emotional swings, a distorted sense of time, and profound changes in how they perceive reality. These experiences can be both enlightening and disorienting.

## Impact on Multiple Neurotransmitter Systems

- **Broader Brain Chemistry Influence:** Besides serotonin, hallucinogens can affect other neurotransmitters like glutamate and dopamine, which are crucial for emotions and thought processes (Vollenweider, 1998). In simpler terms, these drugs can alter the way different brain areas communicate, leading to unique effects on perception and mood.
- **Varied Experiences:** This can result in a wide range of experiences, from feelings of euphoria and connectedness to intense fear or confusion, depending on the individual and the context of use.

## Diverse Effects of PCP and Ketamine

- **Different Targeting:** Unlike LSD and psilocybin, drugs like PCP and ketamine target the NMDA glutamate receptor, involved in memory and learning (Waters, 2021). This means they affect the brain's use of glutamate, leading to a different set of psychological effects.
- **Psychological Outcomes:** Users might experience dissociation, feeling detached from their body or reality. This can be both therapeutic and disorienting, sometimes leading to confusion or loss of memory.
- **Therapeutic Potential as a Mental Health Treatment:** Recent research is exploring the use of substances like psilocybin and MDMA in treating mental health disorders, marking a significant shift in the perception of these drugs in psychology (Kim et al., 2020).

# Hallucinogens in Indigenous Medicine

- **Purpose and Use: Cultural and Spiritual Significance:** In many Indigenous cultures, hallucinogens have been used for centuries for spiritual, medicinal, and ritual purposes. These substances, such as peyote, ayahuasca, and psilocybin mushrooms, are often integral to religious ceremonies and healing practices.
- **Healing and Insight:** Indigenous use of hallucinogens is typically guided by spiritual leaders or shamans and is believed to facilitate healing, provide spiritual insight, and connect individuals with the natural world and the spiritual realm.
- **Control and Respect. Regulated Use:** The use of hallucinogens in Indigenous medicine is highly controlled and respected within these cultures. It is not recreational but rather a part of a structured, often sacred practice.
- **Integration with Rituals:** These substances are used in specific ritualistic contexts, often accompanied by traditional songs, prayers, and guidance from experienced practitioners.

## Contemporary Recognition and Challenges.

- **Legal Recognition:** In some regions, the use of certain hallucinogens in Indigenous practices is legally recognized, acknowledging their cultural and spiritual importance. However, this recognition varies by country and region.
- **Conservation and Sustainability:** The increased interest in these substances poses challenges in terms of conservation and sustainable use, particularly for plants like peyote, which are at risk of over-harvesting.

## Ketamine's Role in Treating Depression and PTSD

- **Ketamine's Mechanism Action on NMDA Receptors:** Ketamine acts on the NMDA glutamate receptors in the brain, affecting glutamate's role in learning and memory, which can lead to rapid antidepressant effects.
- **Psychological Effects:** It can provide immediate relief from severe depression symptoms, offering hope in cases resistant to other treatments.
- **Therapeutic Use: Treatment for Severe Depression and PTSD:** Ketamine has shown effectiveness in treating severe depression and is being explored for complex PTSD and other mental health conditions. In simpler terms, ketamine can offer quick relief from severe depression symptoms and may help in conditions that are otherwise hard to treat.

# SC.14: Case Study - Pool Shark X's Multiverse Challenge - Understanding Drug Effects

Approximate reading time: 11 minutes

Disclaimer: This narrative is a purely speculative exploration set within a fictional multiverse framework for educational and illustrative purposes only. It aims to discuss the hypothetical effects of various drugs on an individual's performance and experiences in a highly controlled, imaginary scenario. This exploration does not endorse or encourage drug use, nor does it reflect real-world applications or ethical research practices. The effects of drugs on individuals can significantly vary and are influenced by numerous factors, including dosage, physiology, and context. The multiverse scenario, including all characters and events, is entirely fictional and designed to provoke thought and discussion on the complex interactions between substances and human abilities. This narrative should not be used as a basis for understanding drug effects in the real world or as guidance for any form of substance use.

In an extraordinary multiverse, where countless parallel universes exist at the same time, Pool Shark X stands as the reigning Galactic Champion of pool. However, their title is under unique threat during the climax of the final game. A mysterious villain, known as Quantum Cue, driven by his desire to take this year's title, possesses a unique and dark power — the ability to transport Pool Shark X across different universes, forcing them to replay the final game over and over again in each universe. Yet, there's a twist — in every universe, Pool Shark X faces a unique impediment; Quantum Cue has secretly dosed our hero with a moderate amount of a different drug (as discussed in our States of Consciousness chapter) in each universe. The stakes are incredibly high; if Pool Shark X loses a game in even one universe, Quantum Cue will claim the prized title of Galactic Champion.

The referees — watchful observers stationed across the multiverse — have carefully documented Pool Shark X's performance during each pool game in each universe. These observational notes are crucial, as they reveal not only the skill of Pool Shark X under the influence of various drugs, but also Quantum Cue's determination to try anything to win. Can Pool Shark X maintain their champion status in every universe, despite the pharmacological (drug) hurdles placed in their path? This sci-fi epic not only promises a thrilling adventure but also serves as our educational review. By comparing the evidence-based effects and impairments associated with each drug, the story helps us learn the physical, emotional, cognitive, behavioural, performance, social, and spiritual impacts of each drug category discussed in our States of Consciousness chapter.

Will Pool Shark X's skill and resilience be enough to outsmart Quantum Cue's plans and emerge victorious across the multiverse? The answer lies in the unfolding saga of Pool Shark X's multidimensional battle for the top prize.

## Baseline Universe: Pool Shark X with No Drug Influence

This baseline universe serves as a control for understanding the effects of drugs in alternate universes. In the baseline universe, Pool Shark X's performance, unaltered by any substances, provides a pure measure of their skill, concentration, and strategic acumen.

- **Physical:** Precise control over cue stick, excellent hand-eye coordination for accurate ball striking.
- **Emotional:** Balanced and focused, maintaining composure under pressure.
- **Cognitive:** Strategic foresight, accurately judging angles and planning multiple shots ahead.
- **Behavioural:** Consistent and deliberate in shot selection and execution.
- **Performance Impact:** Executes complex shots with precision, effectively sets up for subsequent shots, and maintains control of the table.
- **Social:** Exhibits fair play courtesies with other players, communicates effectively with opponents and spectators, maintains a respectful demeanor.
- **Spiritual:** Finds deep satisfaction in the skillful play and strategic mastery of the game.

## Stimulant Universe: Cocaine or Amphetamines

- **Physical:** Initially sharper reflexes, but later, fine motor control may suffer, affecting shot precision.
- **Emotional:** Heightened confidence can lead to overestimation of abilities.
- **Cognitive:** Early boost in focus, but as effects wane, difficulty in planning and adjusting strategies.
- **Behavioural:** More aggressive shot choices, potentially neglecting defensive play.
- **Performance Impact:** May start strong with impressive break shots but struggles with precision in long play sequences.
- **Social:** Increased talkativeness, possibly tipping into aggression or overconfidence in interactions.
- **Spiritual:** The initial euphoria fades into a disconnect regarding the game's deeper strategic nuances.

## Depressant Universe: Alcohol or Benzodiazepines

- **Physical:** Slowed reflexes and impaired coordination, leading to missed shots and poor cue control.
- **Emotional:** False sense of relaxation, potentially ignoring the game's pressure.
- **Cognitive:** Impaired judgment, making it difficult to calculate angles or anticipate opponents' moves.
- **Behavioural:** Inconsistent play, alternating between overly cautious and recklessly bold shots.
- **Performance Impact:** Struggles with precision and complex shot setups, often failing to execute planned sequences.
- **Social:** May exhibit lowered inhibitions, leading to inappropriate comments or diminished awareness of social

cues.

- Spiritual: A sense of detachment from the competitive aspect, losing sight of the game's intricacies.

## Opioid Universe: Heroin or Morphine

- Physical: Marked drowsiness, leading to sluggish movements and delayed reactions.
- Emotional: Detached euphoria, reducing competitive drive.
- Cognitive: Clouded thinking, hindering strategic play and shot planning.
- Behavioural: Reduced physical activity, showing little interest in positioning for the next shot.
- Performance Impact: Poor execution of shots, difficulty in maintaining focus on the game sequence, often misjudging force and angles.
- Social: Limited interaction, potentially withdrawn or indifferent to others' reactions and feedback.
- Spiritual: An escape from the present, losing the connection to the game's immediate challenges and joys.

## Hallucinogen Universe: LSD or Psilocybin

- Physical: Distorted sensory perceptions, making it challenging to align shots or judge distances.
- Emotional: Wide mood swings, affecting consistency and approach to the game.
- Cognitive: Altered perception of space and time, complicating shot sequencing and strategy.
- Behavioural: Unpredictable play, possibly fascinated by the visual effects of the game rather than the outcome.
- Performance Impact: Difficulty in executing precise shots, often misjudging angles and power needed, leading to erratic game play.
- Social: May exhibit profound shifts in mood, from deep connection with spectators and opponents to sudden withdrawal or anxiety.
- Spiritual: Experiences may offer profound insights but are misaligned with the competitive goals of the game.

## Cannabis Universe: Marijuana

- Physical: Mild coordination issues, affecting shot precision and timing.
- Emotional: Increased relaxation, which can reduce stress but also competitive edge.
- Cognitive: Challenges with short-term memory and decision-making, impacting strategic play.
- Behavioural: Varied concentration, sometimes hyper-focused on a single shot but missing the broader game strategy.
- Performance Impact: Inconsistent shot execution, difficulty in planning and executing multi-shot strategies.
- Social: Enhanced sense of camaraderie or, conversely, increased introversion, affecting team dynamics and communication.
- Spiritual: May experience a heightened appreciation for the aesthetics of the game, though not necessarily improving performance.

# Inhalant Universe: Solvents or Aerosol Sprays

- Physical: Immediate physical impairments like dizziness, severely affecting all aspects of game play.
- Emotional: Brief euphoria followed by confusion, impacting emotional regulation.
- Cognitive: Significantly impaired judgment, making strategic thinking nearly impossible.
- Behavioural: Erratic and uncoordinated actions, leading to ineffective play.
- Performance Impact: Struggles with basic shot execution, unable to follow through on game plans or adapt strategies.
- Social: May exhibit inappropriate or erratic behavior, struggling to maintain coherent interactions.
- Spiritual: A profound disconnection from the game, seeking detachment rather than engagement.

## Note to reader: You have read this far. Congratulations! Want to hear how the story ends? Read on ...

After an epic journey through the multiverse, Pool Shark X, with cue in hand, has faced off against the mysterious Quantum Cue in a series of high-stakes final games. Each universe presented its own unique challenge, because Pool Shark X was secretly dosed with a different consciousness-altering drug in each, testing their skills in ways unimaginable. Despite the odds, Pool Shark X's resilience and adaptability shone through, narrowly winning victory in some of the universes where the drugs' effects dramatically shifted their accuracy and perception.

Quantum Cue, driven by his desire to claim the title of Galactic Champion, watched in disbelief as Pool Shark X, against all odds, won every game across the multiverse. Quantum Cue's plans were thwarted, his ambition crushed by the undeniable skill and spirit of Pool Shark X. Enraged by the failure of his master plan and Pool Shark X's triumph, Quantum Cue exploded in a burst of fury and disappeared into a vortex, swearing revenge. Whispers now hint at Quantum Cue's return for next year's competition, plotting a comeback with even greater challenges.

With Quantum Cue's challenge behind them, Pool Shark X returns to the reassuring setting of the baseline universe. After a whirlwind tour of universes that would leave even the most seasoned interdimensional traveler dizzy, Pool Shark X is relieved to be back where the pool balls are stationary until struck, the angles are predictable, and the only high spirits involved are those of the ones cheering from the sidelines, not those caused by substances.

The variety of social interactions, the philosophical spectators, and the surreal settings of each universe taught Pool Shark X more about themselves and the game they love than they ever thought possible. But it's in the baseline universe, with its straightforward games and clear-cut rules, that Pool Shark X finds true satisfaction. Here, the essence of pool — strategy, skill, and sportsmanship — reigns supreme, unclouded by the wicked manipulations of Quantum Cue or the effects of any substance.

As Pool Shark X racks up for another game, they can't help but wonder about their next adventure. What challenges might lie ahead? What new lessons will the multiverse reveal? For now, though, our hero relishes their victory over Quantum Cue and the simple joy of playing pool in their home universe. The saga of Pool Shark X and Quantum Cue concludes not with a bang, but with the reassuring clack of pool balls—a testament to the enduring appeal of the game across all universes. This epic adventure of Pool Shark X teaches us a powerful lesson: the best wins come from doing what we love most, where hard work and smart thinking shine.

# SC.15: Deep Dive - San Trance Dance

Approximate reading time: 2 minutes

Imagine a dance that's more than just moving to music. The San trance dance is like that. The San people, who have lived in Southern Africa for thousands of years, use this dance for something special. When they dance, they do more than just follow a rhythm; they enter a different state of mind that is like being in a dream while awake.

During the dance, the dancers engage in intense physical activity. They move vigorously, often for long periods, which helps them reach this trance state. In this state, they experience different sensations, e.g., feeling that their bodies are changing in unusual ways. This trance is not just for fun; it's a way for them to connect with their spiritual world, heal illnesses, and solve community problems.

The San trance dance shows us how dance can be much more than just a form of art or entertainment. It's a deep part of the San people's culture, helping them connect with each other and their spiritual beliefs.

# SC.16: Deep Dive - The Whirling Dervish

Approximate reading time: 3 minutes

Here's an explanation of the psychology and altered states involved in this practice:

- **Psychological Aspect:** The primary psychological aspect of the whirling dervish is the pursuit of a transcendental state, where the practitioner seeks to connect with the divine or a higher spiritual reality. This practice is not just a physical exercise but a form of meditation and devotion, aiming to achieve spiritual enlightenment and a deeper connection with God.
- **Altered State of Consciousness:** The continuous spinning in the Sema ceremony can induce an altered state of consciousness. This state is characterized by a sense of losing one's ego or self-identity and merging with something greater, often perceived as the divine or the universe. This experience is similar to what is described in various forms of meditation and trance states.
- **Physiological Factors:** The repetitive spinning motion can alter normal bodily functions. It can affect the balance mechanisms in the inner ear, leading to a form of physical disorientation. However, experienced dervishes learn to maintain physical control and balance, which allows them to focus on the spiritual aspect of the practice.
- **Emotional and Spiritual Impact:** Participants often report feelings of ecstasy, deep peace, and a sense of unity with the universe during and after the whirling. This emotional and spiritual experience is central to the practice, as it represents the dissolution of the individual ego and a unification with the divine.
- **Cultural and Religious Significance:** The whirling dervish is deeply embedded in Sufi culture and religious practice. It's not just a dance but a ritual that symbolizes the spiritual journey of ascending to truth and love, while abandoning the ego.

In summary, the whirling dervish practice is a complex interplay of psychological, physiological, emotional, and spiritual elements. It's a unique form of meditation and worship in Sufism that aims to achieve an altered state of consciousness that brings the practitioner closer to a spiritual and divine reality.

# SC.17: Deep Dive - Mediation's Effectiveness: Research Evidence

Approximate reading time: 1 minute

Meditative techniques have their roots in religious practices, but their use has grown in many clinical and alternative medicine settings. There is a growing body of evidence that shows meditation may be effective in treating:

- Blood pressure (Azmi, Iyer, & Azmi, 2020; Goldstein, Josephson, Xie, & Hughes, 2012; Pascoe, Thompson, Jenkins, & Ski, 2017; Rainforth et al., 2007; MariGowda, 2020)
- Stress management (Desai et al., 2021; Shurtleff, 2018)
- Sleep quality (Caldwell, Harrison, Adams, Quin, & Greeson, 2010; Gobbo et al., 2023; Black et al., 2015; SaisaileshKumar et al., 2020; Wei, Li, & Liu, 2018; Nanthakwang et al., 2020; Hausswirth et al., 2022),
- Mood and anxiety disorders (Chen et al., 2013; Freeman et al., 2010; Vøllestad, Nielsen, & Nielsen, 2012; Bukar, Eberhardt, & Davidson, 2019; Bulzacka, Lavault, Pelissolo, & Bagnis Isnard, 2018),
- Pain management (Reiner, Tibi, & Lipsitz, 2013; Yannouli, 2021; Ferreira-Valente, Pimenta, Costa, Day, Pais-Ribeiro, & Jensen, 2021; May, Kosek, Zeidan, & Berkman, 2018).

# SC.18: Deep Dive - How Do You Get Hypnotized?

Approximate reading time: 3 minutes

How exactly does a hypnotist bring a participant to a state of hypnosis? While there are variations, there are four parts that appear consistent in bringing people into the state of suggestibility associated with hypnosis (National Research Council, 1994). These components include:

- The participant is guided to focus on one thing, such as the hypnotist's words or a ticking watch.
- The participant is made comfortable and is directed to be relaxed and sleepy.
- The participant is told to be open to the process of hypnosis, trust the hypnotist and let go.
- The participant is encouraged to use his or her imagination.

These steps are conducive to being open to the heightened suggestibility of hypnosis.

People vary in terms of their ability to be hypnotized, but a review of available research suggests that most people are at least moderately hypnotizable (Kihlstrom, 2013; Elkins, 2021; Santarcangelo, 2018; Spina, Chisari, and Santarcangelo, 2020; Pascalis and Santarcangelo, 2020). Hypnosis in conjunction with other techniques is used for a variety of therapeutic purposes and has shown to be at least somewhat effective for pain management, treatment of depression and anxiety, and smoking cessation (Alladin, 2012; Elkins, Johnson, & Fisher, 2012; Golden, 2012; Montgomery, Schnur, & Kravits, 2012; Ramirez-Carrasco, Butrón-Téllez Girón, Sanchez-Armass, & Pierdant-Pérez, 2017; Malik, Mirza, Ahmad, & Malik, 2021; Sine, Achbani, & Filali, 2021; Truzoli, Renzi, Romanò, Gremizzi, Pirola, & Reed, 2020).

# SC.19: Deep Dive - How Does Hypnosis Work?

Approximate reading time: 5 minutes

Hypnosis is a fascinating and complex psychological phenomenon that has intrigued scientists, psychologists, and the public alike. In this section, we'll explore the various theories about how hypnosis works.

## 1. Dissociation Theory (Hilgard & Hilgard, 1994)

### Explanation

The dissociation theory, proposed by Ernest Hilgard, suggests that hypnosis causes a split in consciousness. This means that during hypnosis, one part of the mind is aware of reality, while another part is deeply absorbed in the hypnotic experience. This theory is exemplified in Hilgard's experiments where subjects under hypnosis reported not feeling pain but reacted to it unconsciously (Hilgard & Hilgard, 1994). The theory is particularly relevant in explaining hypnotic analgesia, where subjects experience pain relief under hypnosis. This aligns with the idea of dissociation, as the mind separates the sensation of pain from conscious awareness (Freeman et al., 2000; Oswald, 1985).

### Relevance

This theory is crucial for understanding how hypnosis can be used in pain management and therapy, as it explains how a person can be aware and unaware of sensations simultaneously.

## 2. Social Role Theory (Lynn, Rhue, & Weekes, 1990; Kirsch, 1991)

### Explanation

This theory by Nicholas Spanos views hypnosis as a social role that individuals perform. It suggests that the behaviours and experiences of a hypnotized person are influenced by their expectations of how they should act while hypnotized. This theory implies that hypnosis is not a special state of consciousness but a form of social compliance or role-playing.

## Relevance

This perspective is important for understanding the placebo effect and the power of suggestion in hypnosis.

## 3. Response Sets and Hierarchical Control Systems (Kirsch & Lynn, 1998)

### Explanation

This theory, proposed by Kirsch and Lynn, emphasizes the role of response expectancy in hypnosis. The concept of “response sets” refers to the predisposition of individuals to respond to suggestions. This theory integrates cognitive and social perspectives, suggesting that expectations play a key role in hypnotic experiences.

### Relevance

Understanding this theory helps in comprehending how suggestions can effectively alter a person’s perception and behaviour during hypnosis.

## 4. Relaxation and Increased Suggestibility (Becker, 2015)

### Explanation

This theory suggests that hypnosis works through deep relaxation and heightened suggestibility, leading to changes in perception, memory, and behaviour. When a person is deeply relaxed, they become more open to suggestions, which can lead to changes in perception, memory, and behaviour (Becker, 2015). However, it’s important to note that relaxation is not a necessary component for all hypnotic phenomena. (Hammond, 2010; Elkins, 2014)

### Relevance

This theory is significant for therapeutic applications of hypnosis, especially in stress reduction and anxiety management.

## 5. Psychophysiological Mechanisms (West, 1960)

### Explanation

According to this theory, hypnosis affects the psychophysiological mechanisms in the body, particularly the nervous system. It suggests that hypnosis can alter a person's state of awareness by influencing the brain's attention and consciousness systems (West, 1960). However, the exact mechanisms remain a subject of ongoing research. (Oakley & Halligan, 2013; Jensen et al., 2017).

### Relevance

This theory provides a biological basis for hypnosis, explaining how it can affect physical responses and sensations.

## 6. Manipulation of Subjective Awareness (Oakley & Halligan, 2013)

### Explanation

This theory suggests that hypnosis changes a person's subjective experience. It can modify how we perceive, feel, and respond to different situations, influencing attention, bodily control, pain perception, and belief formation (Oakley & Halligan, 2013). This perspective aligns with contemporary research suggesting that hypnosis can modulate various cognitive and perceptual processes (Oakley & Halligan, 2013; Terhune et al., 2017).

### Relevance

This theory is important for understanding how hypnosis can be used in altering perceptions and behaviours in therapeutic settings.

## 7. Top-Down Regulation of Consciousness (Terhune et al., 2017)

### Explanation

This modern theory describes hypnosis as a process that starts in the higher brain functions and influences lower-level processes. It suggests that hypnosis uses verbal suggestions to bring about changes in various psychological

phenomena (Terhune et al., 2017). The top-down regulation theory, as proposed by Terhune and colleagues, is supported by recent neuro-scientific research. It suggests that hypnosis involves top-down cognitive control processes, influencing various psychological phenomena. (Terhune et al., 2017; Jensen et al., 2017)

## Relevance

This theory is crucial for understanding the cognitive aspects of hypnosis and its potential in modifying thought patterns and behaviours.

# SC.20: Case Study - Jabari's Hypnotic Experience Through Different Theoretical Lenses

Approximate reading time: 5 minutes

Background: Jabari, a college student, faces severe anxiety during exams. Despite being well-prepared, they often find themselves unable to recall information. In their quest for relief, Jabari turns to hypnosis. This case study explores Jabari's experience under hypnosis, through various theoretical lenses including the dissociation theory and the social role theory.

## 1. Dissociation Theory (Hilgard & Hilgard, 1994)

Theory in Action: According to the dissociation theory, hypnosis is a state of altered consciousness. It's similar to when someone drives to work but is only minimally aware of the driving itself because their attention is elsewhere. In Jabari's case, under hypnosis, their consciousness splits into different streams — one stream is responsive to the hypnotist's suggestions, while the other retains awareness of their anxiety.

Jabari's Experience: During hypnosis, Jabari feels detached from their usual anxious response to exams. This dissociation allows them to access a part of their consciousness that remains calm and collected, even though another part of them is aware of the anxiety. This experience mirrors Hilgard's findings in which participants, under hypnosis, reported not feeling pain but still responded to it.

## 2. Social Role Theory

Theory in Action: This theory views hypnosis not as an altered state of consciousness, but as the individual's adoption of a social role. Here, the person behaves in a way that fits their understanding of a hypnotized person's behaviour.

Jabari's Experience: From this perspective, Jabari's response to hypnosis appears to conform to the expected behaviour of a hypnotized person. They behave in a manner that they believe a person free from exam anxiety would behave, influenced by the social context and expectations set by the hypnotist.

## 3. Response Sets and Hierarchical Control Systems (Kirsch & Lynn, 1998)

Theory in Action: In this theory, hypnosis involves response sets in which Jabari's brain automatically gears up to follow

the hypnotist's suggestions. The hierarchical control systems in their brain organize their thoughts and behaviours in a way that prioritizes calmness and focus.

Jabari's Experience: As they undergo hypnosis, Jabari becomes more receptive to the idea of controlling their anxiety. They start to feel a sense of calmness when thinking about exams, a result of their brain's new automatic response pattern.

## 4. Relaxation and Increased Suggestibility (Becker, 2015)

Theory in Action: This theory suggests that hypnosis works by inducing a deeply relaxed state, making the mind more open to suggestions.

Jabari's Experience: As Jabari relaxes under hypnosis, they find their usual exam anxiety diminishing. The suggestions that exams are a positive challenge start to resonate with them, replacing their fear with confidence.

## 5. Psychophysiological Mechanisms (West, 1960)

Theory in Action: Hypnosis is believed to work through the body's nervous system, particularly influencing the brain's attention and consciousness systems.

Jabari's Experience: Through hypnosis, Jabari's physiological responses to anxiety begin to diminish. They learn to control these responses, reducing their physical symptoms of anxiety during exams.

## 6. Manipulation of Subjective Awareness (Oakley & Halligan, 2013)

Theory in Action: This theory suggests that hypnosis changes a person's subjective experience.

Jabari's Experience: Jabari starts to perceive exams differently. Instead of viewing exams as threats, they begin to see exams as opportunities to demonstrate their knowledge.

## 7. Top-Down Regulation of Consciousness (Terhune et al., 2017)

Theory in Action: Hypnosis is seen as a process that starts in the higher brain functions and influences lower-level processes.

Jabari's Experience: Jabari learns to use positive self-talk and visualisation techniques to control their anxiety, managing their stress responses effectively during exams.

## Conclusion

Jabari's journey through hypnosis, viewed through different theoretical lenses, provides an understanding of their experience. Each theory, from dissociation to social role-playing, offers a unique perspective on how hypnosis might influence the human mind and behaviour, demonstrating the complexity and potential of hypnosis as a therapeutic tool.

# SC.21: Deep Dive - More About Near-Death Experiences: Another Type of Altered State

Approximate reading time: 7 minutes

Recent research challenges the long-held belief that the brain suffers irreversible damage after 10 minutes of cardiac arrest, suggesting that the brain can show signs of electrical recovery for up to an hour during ongoing cardiopulmonary resuscitation (CPR). This period, often marked by vivid experiences for the patient, is now seen as a critical window for potential revival and recovery, contrary to previous assumptions of permanent brain damage (Parnia, MD, PhD). This emerging evidence underscores the importance of high-quality CPR and the exploration of new treatments to restart the heart or prevent brain injury, highlighting a shift in the understanding of brain activity and consciousness during cardiac arrest (Soar, MD).

The phenomenon of CPR-induced consciousness, where individuals regain awareness during cardiac arrest if high-quality chest compressions are administered, has become more common. This consciousness is characterised by signs such as combativeness, groaning, and eye-opening. Additionally, some patients recall experiences or perceptions suggestive of consciousness, ranging from hearing voices to experiencing dream-like states. These findings suggest that the brain is capable of forming memories during the dying and recovery process, challenging previous notions about the brain's functionality following cardiac arrest (Parnia, MD, PhD; Soar, MD).

Recent studies have shed light on the complex experiences individuals may undergo during cardiac arrest, often described as near-death experiences or altered states of consciousness (Larkin, 2024). These experiences, ranging from vivid recollections of past memories to encounters with deceased loved ones, suggest that the brain remains highly active and capable of complex activity even when clinical signs of life are absent. Researchers, including Parnia and his team, have explored the biological underpinnings of these phenomena, suggesting that they are not merely hallucinations but may have a basis in the brain's response to extreme stress (Parnia, MD, PhD).

Parnia's research team has a hypothesis that potentially explains CPR-induced consciousness. When the heart stops and the brain essentially "flatlines", indicating no electrical activity, the brain might enter a state where its usual inhibitory controls — mechanisms that regulate and limit its activity — are lifted. This removal of constraints could theoretically allow the brain to access a broader spectrum of memories and experiences, potentially explaining the vivid and expansive nature of recalled experiences during cardiac arrest. Contrary to the traditional medical belief that the brain suffers immediate and irreversible damage within minutes of oxygen deprivation, this perspective suggests that the brain's functionality can persist, opening new avenues for therapeutic interventions to aid recovery following cardiac arrest (Parnia, MD, PhD).

In simpler terms, Parnia and his colleagues suggest that during cardiac arrest, the brain might "unlock" parts of itself that are usually restricted, allowing individuals to experience memories and sensations in intense and unusual ways. This happens even though the brain appears to stop working in the conventional sense, challenging the notion that it quickly succumbs to oxygen deprivation. This insight not only contradicts previous medical assumptions but also ignites hope for developing new treatments that could revive patients from states previously deemed irreversible. By understanding these altered states of consciousness, medical professionals can explore innovative strategies to enhance recovery and care for those who have experienced cardiac arrest, potentially transforming outcomes for survivors.

Evidence around near-death experiences (NDEs) includes:

- **Vivid Recollections and Realness:** Near-death experiences are remembered as more real than real-life events or imagined events, suggesting a unique cognitive and emotional impact on individuals who have NDEs (Moore & Greyson, 2017).
- **Common Features:** NDEs often include experiences of moving through a tunnel, encountering a bright light, meeting deceased relatives or spiritual beings, and a sense of peace or detachment from the body (Agrillo, 2011).
- **Cultural Variations:** While there are common themes in NDEs across different cultures, specific details and interpretations can vary, reflecting individual, cultural, and religious backgrounds (Belanti, Perera, & Jagadheesan, 2008).
- **Psychological Impact:** Individuals who have NDEs frequently report significant changes in their attitudes towards life and death, including a reduced fear of death and a greater appreciation for life (Greyson, 2010).
- **Biological Explanations:** Some researchers propose that NDEs may arise from brain activity in life-threatening situations, such as the release of endorphins or other neurochemical responses to stress (Mobbs & Watt, 2011).
- **Memory Characteristics:** NDEs are associated with detailed and stable memories, suggesting a strong impact on the brain's memory systems (Martial et al., 2017).

In conclusion, the exploration of near-death experiences and CPR-induced consciousness has significantly broadened our understanding of the brain's capabilities during extreme stress, such as cardiac arrest. Contrary to previous beliefs that the brain suffers irreversible damage shortly after oxygen deprivation, recent research suggests that the brain can remain active and even recover electrical activity up to an hour after the heart stops. This period is now recognized as a critical window for potential revival and recovery, highlighting the importance of high-quality CPR and the need for innovative treatments to restart the heart or prevent brain injury.

These findings challenge traditional views on the relationship between consciousness and brain activity, suggesting that consciousness can persist in conditions previously thought to be incompatible with any form of awareness. The experiences reported by individuals during these states, ranging from vivid recollections to encounters with deceased loved ones, indicate that the brain is not only active but also capable of complex cognitive processes during cardiac arrest.

These discoveries underscore the complexity of states of consciousness and the brain's resilience. They invite a reevaluation of our understanding of consciousness, suggesting that it is not as tightly bound to physiological states as once believed. This emerging perspective not only enriches the field of psychology with new insights into human consciousness but also offers hope for medical advancements in the care of patients experiencing cardiac arrest.

# SC.22: Deep Dive - Rohan's Treatment Plan for Aria's Insomnia: References

Approximate reading time: 4 minutes

by Rohan (Intern)

This plan combines evidence-based interventions with an understanding of the biological and psychological mechanisms behind each Strategy, offering a holistic approach to managing insomnia.

## Sleep Hygiene Education

**Strategy:** Focus on creating an optimal environment and habits for sleep. This includes a consistent sleep schedule, a dark and quiet room, and avoiding stimulating activities before bed. Biologically, a regular sleep schedule aligns with your circadian rhythm, enhancing sleep quality.

**References:** Carrión-Pantoja et al. (2022); Albasheer et al. (2020).

**Ranking:** Very Easy.

## Environmental Adjustments

**Strategy:** Modify the sleep environment to be more conducive to rest. A comfortable environment aligns with your body's need for a calm and safe place to sleep.

**References:** Xu et al. (2021); Delaney et al. (2018); Foulkes et al. (2019); Lin et al. (2018); Basner & Mcguire (2018); Caddick et al. (2018); Rahimi et al. (2021).

**Ranking:** Easy.

## Electronic Device Management

**Strategy:** Limit screen time before bed to reduce blue light exposure, which disrupts melatonin production. Blue light inhibits melatonin, a hormone crucial for sleep regulation.

**References:** Heo et al. (2017); Driller & Uiga (2019); Jniene et al. (2019); Shechter et al. (2020); Terán et al. (2020); Randjelović et al. (2023).

**Ranking:** Moderately Easy.

## Dietary Adjustments

**Strategy:** Adopt a balanced diet to ensure proper nutrition for restful sleep. Certain nutrients and eating patterns can influence neurotransmitters that regulate sleep.

**References:** St-Onge, Mikic, & Pietrolungo (2016); Yamamoto et al. (2019); Ramón-Arbués et al. (2022); Godos et al. (2019, 2021); Wu et al. (2018).

**Ranking:** Moderate.

## Exercise Plan

**Strategy:** Incorporate regular moderate aerobic exercise to improve sleep quality. Exercise increases adenosine levels in the brain, which promotes sleep.

**References:** Passos et al. (2011); Kredlow et al. (2015); Xie et al. (2021); Park et al. (2021); Hartescu, Morgan, & Stevinson (2015).

**Ranking:** Moderately Challenging.

## Napping Management

**Strategy:** Adjust napping habits to avoid disrupting night-time sleep. Excessive napping can interfere with the natural sleep-wake cycle.

**References:** Mograss et al. (2022); Boukhris et al. (2019); Lastella et al. (2021); Zhou et al. (2019); Liu et al. (2018); Li et al. (2018).

**Ranking:** Moderately Challenging.

## Stress Management Techniques

**Strategy:** Implement techniques like mindfulness to manage stress. Stress activates the sympathetic nervous system, hindering sleep initiation.

**References:** Alqahtani et al. (2022); Luo et al. (2021); Tsang et al. (2021); Zhao et al. (2020); Zou et al. (2020); Liu et al. (2021); Bulut et al. (2022).

**Ranking:** Challenging.

## Caffeine and Energy Drink Reduction

**Strategy:** Gradually reduce caffeine and energy drink consumption. Caffeine blocks adenosine receptors, disrupting sleep.

**References:** Faris et al. (2017); Erdogan & Kurçer (2019); Patrick, Griffin, Huntley, & Maggs (2018); Park, Lee, & Lee (2016); Robby & Sanad (2017); Galland et al. (2017); Yamasaki et al. (2023); Koivusilta et al. (2016); van Batenburg-Eddes et al. (2014).

**Ranking:** More Challenging.

## Alcohol and Cannabis Use Reduction

**Strategy:** Reduce alcohol and cannabis intake, as they can disrupt sleep patterns. Alcohol alters sleep architecture and cannabis affects REM sleep.

**References:** Altman, Eyal, & Baharav (2018); Zheng et al. (2020); Devenney, Coyle, Roth, & Verster (2019); Helaakoski et al. (2022); Choi, Park, & Cho (2018); Altman et al. (2019); Choi et al. (2020); Mondino et al. (2021); Ried et al. (2022); Babson & Bonn-Miller (2014); Kesner & Lovinger (2020); Belendiuk et al. (2015); Lafaye et al. (2018).

**Ranking:** Quite Challenging.

## Cognitive Behavioural Therapy for Insomnia (CBT-I)

**Strategy:** Work with the Registered Psychologist Team using CBT-I to modify thoughts and behaviours affecting sleep. CBT-I addresses cognitive and behavioural factors that perpetuate insomnia.

**Ranking:** Most Challenging.

## Regular Follow-ups

**Strategy:** Regularly monitor progress and adjust as needed. Consistent follow-ups provide accountability and adaptability in treatment.

**Ranking:** Easiest.

# SC.23: Deep Dive - Aria's Story, Rohan's Session Notes

Approximate reading time: 4 minutes

by Rohan G. (Intern)

Rohan was asked by his supervisory team to keep session notes in order to provide a step by step account of Aria's journey. These notes not only reflect Aria's commitment to each strategy but also highlight the challenges and triumphs she encountered along the way.

## Week 1: Sleep Hygiene Education and Environmental Adjustments

**Success:** Aria established a regular bedtime and optimized her sleep environment by making her room dark and quiet. She also started using earplugs to block out noise, which improved her sleep environment significantly.

**Struggle:** She found it challenging to adjust to a strict bedtime routine and avoid stimulating activities before bed. Aria also had to experiment with different earplugs to find the most comfortable ones.

## Week 2: Electronic Device Management

**Success:** Aria noticed a quicker onset of sleep after reducing her screen time before bed and using night mode on her devices.

**Struggle:** She initially found it difficult to cut back on social media and emails in the evening, which caused her some anxiety.

## Week 3: Caffeine and Substance Use Reduction

**Success:** She successfully reduced her caffeine intake, especially in the evenings, and moderated her alcohol consumption.

**Struggle:** Aria faced caffeine withdrawal symptoms like headaches, which made the first few days quite challenging.

## Week 4: Stress Management Techniques

Success: She began practicing mindfulness meditation, finding that it helped to calm her mind before sleep.

Struggle: Aria found it somewhat difficult to incorporate these practices into her busy schedule consistently.

## Week 5: Diet and Exercise Plan

Success: Aria started eating more balanced meals and initiated a moderate exercise routine; she found that this enhanced her overall energy levels.

Struggle: Changing her diet, particularly cutting down on sugary snacks, was a tough adjustment.

## Week 6: Cognitive Behavioural Therapy for Insomnia (CBT-I)

Success: Aria found that engaging in CBT-I helped her to address negative thoughts and behaviours affecting her sleep.

Struggle: She found it emotionally demanding to work through deep-seated beliefs and habits; this required significant effort.

## Week 7: Regular Follow-ups

Success: Regular check-ins with her therapist helped Aria to track her progress and make necessary adjustments.

Struggle: She sometimes felt disheartened by the pace of progress but was encouraged to persist by her therapist.

## Progress and Timeline for Overcoming Insomnia

Aria experienced a mix of successes and challenges with each intervention. Aria says she is feeling better since taking these gradual steps to overcome her insomnia.

By week 7, Aria noticed considerable improvements in her sleep quality. However, completely overcoming insomnia might take a longer time, depending on various individual factors. In general, one could realistically expect the process to take several weeks to a few months to achieve significant improvement. Aria will need ongoing support, adapted strategies, and regular follow-ups to help her continue her progress towards better sleep.

Rohan's notes above meticulously document Aria's weekly progress, highlighting both the successes and challenges she faced. Now, in her own words, Aria shares her reflections on what it was like for her to work through the steps of the insomnia treatment plan. Her narrative expresses her heartfelt appreciation after overcoming her insomnia.

# SC.24: Deep Dive - Aria's Story (Part 2): Aria's Reflection on Overcoming Insomnia

Approximate reading time: 5 minutes

*Before I decided to seek help for my insomnia, I felt overwhelmed and a bit scared. The idea of opening up about my sleep problems and changing my habits seemed daunting. But reaching the point where I knew I needed help was a big step for me.*

*When I first met the intern, Rohan, I was immediately struck by his knowledge and compassion. He didn't just see me as another case; he saw me as a person struggling with something deeply personal. His understanding and empathy made it easier for me to open up and trust the process.*

*The intern explained each insomnia strategy in a way that was easy to understand. He taught me not just what to do, but why it would help. Understanding the biological and psychological reasons behind each intervention was fascinating and made me feel more in control of my situation. It was empowering to learn how small changes in my habits and environment could have such a significant impact on my sleep.*

*We started with the easier strategies, like improving my sleep hygiene and making environmental adjustments. These small victories in the first week boosted my confidence. Each week, as we added more strategies, I felt more equipped to handle the challenges. Rohan's approach of scaffolding from easy to more challenging strategies was incredibly effective. It felt like I was building a strong foundation, and with each new layer, I was getting closer to better sleep.*

*The regular follow-ups were so helpful. They kept me motivated and accountable. Even when I struggled, like with reducing caffeine or managing stress, I knew I wasn't alone. Rohan was there to guide me, adjust the plan as needed, and celebrate the small wins with me.*

*Now, looking back, I can hardly believe the change in my well-being. My insomnia, which once felt like an insurmountable obstacle, has greatly diminished. I sleep better, feel more energetic during the day, and my overall mood has improved. This journey has taught me so much about myself and the importance of taking care of my sleep. I'm grateful for Rohan's guidance and the strategies that have helped me reclaim my nights and, in many ways, my life.*

Aria's heartfelt reflection gives us an intimate look into the ways in which the treatment strategies personally affected her, and offers insights into the emotional and psychological impact of the journey. You might be wondering how our intern, Rohan, did on his practicum. Here is his supervising psychologists' feedback assessing Rohan's approach, methodology, and effectiveness in handling Aria's case. This feedback not only highlights his skills and accomplishments but also serves as a testament to the positive outcomes achieved through his dedicated efforts and holistic approach to treating insomnia.

# SC.25: Deep Dive - Professional Feedback for Intern Rohan

Approximate reading time: 2 minutes

*Dear Rohan (1st year M.A. Intern),*

*We, your supervising psychologists, wanted to take a moment to reflect on how you did with Aria's insomnia treatment over these past seven weeks. Honestly, we're really impressed!*

*Your approach was spot-on. Starting with the easier stuff like getting her sleep space sorted and cutting down on screen time before bed was a smart move. It gave Aria some quick wins, which really seemed to boost her confidence and motivation to tackle the harder stuff later on.*

*We noticed how you built up the plan step by step. This wasn't just about one thing; it was the whole package — from fixing up her room to changing daily habits. It's this kind of evidence-based, holistic thinking that makes a real difference.*

*The way you handled the diet and exercise part was great too. You didn't just throw a bunch of info at Aria; you helped her find what works for her. And it paid off. We saw how she started sleeping better and feeling more upbeat.*

*Your regular check-ins were key. Your report of Aria's successes and struggles showed that the treatment program you designed was challenging and still achievable. Your week-by-week plan allowed you to tweak things as needed. Your encouragement helped Aria to stay on track. That kind of attention shows you really care about your clients.*

*In short, you did a fantastic job. You've got a real knack for this, and your work with Aria proves it. Keep up the great work, and you're going to do great things in this field.*

*Cheers,*

*The Team*

# CHAPTER 11. LIFESPAN DEVELOPMENT

# LD.1: Deep Dive - Read the Full Length Graphic Narrative About the MacBeth, et al. TV Study

Approximate reading time: 10 minutes

[Town Without TV: Part 1 - NoTel](#)

[Town Without TV: Part 2 - UniTel](#)

Town Without TV: Part 3 - MultiTel (Not yet available - coming soon in 2024)

# LD.2: Case Study: Twin Journeys through Vygotsky's Zones - Ivan and Natalia

Approximate reading time: 3 minutes

Ivan and Natalia are fraternal twins growing up in the same socio-cultural environment. However, their individual interests and strengths have led them through different paths within Vygotsky's Zones of Proximal Development (ZPD).

## “What I Cannot Do Yet” Zone

In the “What I Cannot Do Yet” Zone, Natalia, who has a fascination for spatial puzzles, finds herself struggling with an intricate 3D puzzle that even her parents can't solve. Meanwhile, Ivan, a language enthusiast, is enjoying the challenge of understanding the complexities of their grandmother's native language, Russian.

## “What I Can Do With Help”

Moving to the “What I Can Do With Help” Zone, or the Zone of Proximal Development, Natalia engages with her older cousin, an engineering student with a knack for spatial problems. Together, they work through the intricate 3D puzzle, which Natalia had found insurmountable on her own. Similarly, Ivan begins to learn Russian under the guidance of their grandmother. With his grandmother's help, Ivan begins to understand and construct basic sentences in Russian, an achievement he couldn't accomplish by himself.

## “What I Can Do By Myself”

Finally, in the “What I Can Do By Myself” Zone, or the Zone of Achieved Development, Natalia is now able to solve medium complexity 3D puzzles independently. The problem-solving strategies she learned from her cousin have boosted her abilities, and she now views more complex puzzles as achievable challenges rather than insurmountable problems. Likewise, Ivan, with continuous practice and immersion, can now understand and communicate in Russian at a basic level without his grandmother's assistance. This independence in a new language represents Ivan's personal achievement and serves as a basis for moving into his Zone of Achieved Development, exploring more complex aspects of the Russian language.

Despite sharing the same environment, Natalia and Ivan's ZPDs represent their individual learning trajectories and distinct zones of development. This case study showcases how Vygotsky's ZPD, although culturally mediated, can play out differently within individuals, even within the same family. It also underscores the importance of support and guidance from an Elder or a more knowledgeable individual in navigating the learning journey.

# LD.3: Case Study: Li Wei - A Journey through Cognitive Stages

Approximate reading time: 4 minutes

Li Wei is a young boy who was born in China but emigrated to the Canadian prairies when he was a few months old. His family comprises his mother, father, and an older sister named Mei.

## Stage 1 – Sensorimotor Stage:

In Li Wei's early years, his interactions with the world were sensory- and motor-based. As an infant, he explored objects by mouthing, shaking, and banging them, learning through touch and sound. By the age of 8 months, Li Wei had developed object permanence; for example, when his favourite toy was hidden beneath a blanket, he would reach for it, indicating his understanding that the toy still existed despite being out of sight.

## Stage 2 – Pre-operational Stage:

Around the age of 3, Li Wei entered the pre-operational stage. He began to engage in pretend play, taking on the role of a superhero, using a towel as a cape. His understanding of language and symbols grew, but his logic was still based on his own personal experiences rather than conventional knowledge. When Li Wei and his older sister, Mei, received the same amount of pizza, Li Wei insisted he had more pizza because his slice was divided into 4 pieces (i.e., quarters of a slice) instead of Mei's two pieces (i.e., half a slice). This demonstrated his egocentric thinking and his lack of understanding of conservation.

## Stage 3 – Concrete Operational Stage:

At the age of 8, Li Wei progressed to the concrete operational stage. He demonstrated an understanding of conservation when he corrected his younger cousin, who thought that a tall, thin glass of water held more water than a shorter, wider one. Li Wei patiently explained that the amount of water remained the same despite the change in shape of the glass. He also started to grasp mathematical transformations, like addition being the opposite of subtraction, indicating his cognitive growth in this stage.

## Stage 4 – Formal Operational Stage:

By the age of 12, Li Wei had entered the formal operational stage. He began dealing with abstract ideas and

hypothetical situations. For a science project, he conducted an experiment to determine if different colored lights affected the growth rate of plants. He hypothesized, tested, and drew conclusions based on his observations, showing his ability to think more flexibly and creatively.

## Stage 5 – Beyond Formal Operational Thought:

As Li Wei became a teenager, he seemed to be progressing beyond the formal operational stage into what some theorists call postformal thought. At 15, he faced a challenging situation where his close friend began bullying a new student. Torn between loyalty and his values, he chose to confront his friend, integrating logic with emotional understanding of the bullied student's distress. When his concerns were dismissed, he responsibly reported the situation to a teacher, reflecting his postformal thought ability to merge emotion, logic, and understanding of potential long-term consequences.

# LD.4: Deep Dive - Heinz Dilemma Kohlberg's Stages of Moral Development

Approximate reading time: 4 minutes

The video below originally had an interactive component that has been deactivated. When the question and the possible answers appear you can click on the links below the video to see your moral stage.

Watch this video: [Heinz Dilemma – Kohlberg's stages of Moral Development \(Interactive Animation\) \(3 minutes\)](#)



*One or more interactive elements has been excluded from this version of the text. You can view them online here:*  
<https://opentextbc.ca/psychologymtdisupplement/?p=155#oembed-1>

“Heinz Dilemma – Kohlberg’s stages of Moral Development (Interactive Animation)” video by RebelMangoTv is licensed under the Standard YouTube licence.

When the question and the possible answers appear in the video you can click on the links below to see your moral stage:

Heinz should steal the drug, and not go to prison as this is unfair: [2:31](#)

Heinz should not steal the drug since he would be breaking the law: [1:37](#)

Heinz should steal the drug, and accept any prison sentence: [2:02](#)

# LD.5: Case Study - Willo's Journey Through Kohlberg's Stages of Moral Development

Approximate reading time: 3 minutes

## Stage 1: Obedience and Punishment Orientation (“Do Right to Avoid Trouble”)

When Willo was young, their idea of right and wrong was mostly about not getting into trouble. For example, they didn't watch TV before finishing their homework, not because they understood the importance of prioritizing education, but because they wanted to avoid punishment from their parents.

## Stage 2: Individualism and Exchange (“What’s in It for Me?”)

As Willo grew a bit older, they began to realize that good behaviour could result in rewards. So, they would do chores around the house, not necessarily because they believed in the value of helping out, but because they knew they would get an allowance or extra playtime in return.

## Stage 3: Good Interpersonal Relationships (“Be a Good Person”)

In high school, Willo cared a lot about what their friends thought. They wanted to be seen as a good friend and a good student, so they stuck to rules and tried to live up to the expectations of others. They weren't just following rules to avoid trouble now; they were doing it to fit in and be liked.

## Stage 4: Maintaining the Social Order (“Law and Order”)

As they got older, Willo began to understand why society needs rules. They paid taxes and followed laws, not just because they had to, but because they understood that these actions help everything run smoothly. They respected authority and believed in keeping order in society.

## Stage 5: Social Contract and Individual Rights (“Questioning Authority”)

In their early adulthood, Willo started to realize that not all rules and laws are fair to everyone. They began to question laws they felt were unjust, and even participated in peaceful protests. They understood that sometimes you have to stand up for individual rights, even if it means going against the majority.

## Stage 6: Universal Principles (“Moral Compass”)

Now, Willo lives by their own moral rules, which are based on principles of fairness, equality, and compassion. They believe in helping others, even when no one is watching, and even if it doesn't bring any personal benefit. For example, they volunteer at a local community center to support underprivileged children, not for recognition, but because they believe it's the right thing to do.

Willo's journey through Kohlberg's stages shows how our understanding of right and wrong can change and grow over time. It's a personal journey and everyone moves through these stages at their own pace.

# LD.6: Case Study - Anaya's Journey through the Racial Identity Stages

Approximate reading time: 4 minutes

## Pre-encounter

Anaya is a 27-year-old South Asian Muslim woman, currently enrolled in her second year of medical school in the United States. She has always been proud of her cultural heritage but has not reflected deeply on how her race and religion might affect her experiences. Growing up in a diverse neighbourhood, Anaya didn't feel her race was significant (Pre-encounter stage). She worked hard, following the example set by her immigrant parents, internalizing a belief that merit, not ethnicity, is what matters in society.

Anaya wears a hijab as part of her faith, but she initially perceived it as more of a personal choice than a symbol of her racial or religious identity. At the medical school, however, she found herself to be one of the very few women wearing a hijab. Other students and instructors subtly treated her differently, making her feel othered. She often experienced microaggressions such as peers saying, "You speak English so well," or instructors overly praising her for "participating" in group discussions, as if her involvement was surprising.

## Encounter

This continuous stream of experiences marked her Encounter stage. Anaya started recognizing the impact of her race and religion on her daily experiences. The dissonance in a merit-based society between her belief and her experiences of bias led her to reconsider her views on race. She found it distressing that her competence was questioned simply due to her race and religious beliefs.

## Immersion/Emersion

During the Immersion/Emersion stage, Anaya sought solace and understanding within her racial and religious community. She joined a local South Asian student group and a Muslim women's association. These groups allowed her to delve deeper into her cultural heritage and religion, providing a supportive space to share experiences and navigate challenges. During this period, Anaya harboured anger and resentment towards her peers and instructors, who seemingly dismissed her capabilities because of her hijab. She distanced herself from non-Muslim and non-South Asian peers, focusing on bonding with those who shared her experiences.

## Internalization

In the Internalization stage, Anaya started feeling more comfortable and secure in her identity. The connections she'd made within her own racial and religious community were essential, but she realized that she didn't want to limit herself. She started actively participating in school-wide events, discussions, and clinical groups, presenting herself as a competent medical student who also happens to wear a hijab. Anaya still recognized the existence of racism and bias, but she refused to let it define her. Instead, she chose to embrace the diversity and learn from everyone around her.

## Internalization-Commitment

As she moved into the Internalization-Commitment stage, Anaya felt a responsibility to address the racial biases she'd encountered. She used her experiences to advocate for diversity training within the medical school. She also worked with school administration to organize workshops on cultural competency and sensitivity. By making these efforts, Anaya was not only accepting her own racial identity, but actively working to promote a more inclusive, understanding environment in her school and future profession.

Anaya's journey through Tatum's stages of Racial Identity Development highlights the often painful but ultimately empowering process of recognizing racial identity. It illustrates how, through confrontation with racism and bias, individuals can transform their experiences into opportunities for personal growth and advocacy for social justice.

# LD.7: Case Study - Maya's Path to Feminist Identity Development

Approximate reading time: 4 minutes

## Passive Acceptance

Maya is a 25-year-old software engineer who grew up in a conservative family where traditional gender roles were the norm. She never questioned the expectations placed upon her as a woman, such as the assumption that she would prioritize family over career. Maya's early life was characterized by a passive acceptance of these roles, mirroring the first stage of Feminist Identity Development. She believed that success and fulfillment came from adhering to these societal norms.

## Revelation

The turning point for Maya came when she joined a tech company and was confronted with the stark realities of gender bias in the workplace. Maya noticed that, despite her qualifications, she was often overlooked for leadership opportunities in favor of her male colleagues. This experience awakened Maya to the systemic oppression faced by women in her field. The realization was further deepened by discussions with female colleagues who shared their experiences of sexism, echoing the "waking up" phase of the FID model.

## Embeddedness-Emanation

Seeking support and understanding, Maya immersed herself in feminist literature and online communities. She found solace and strength in these spaces, connecting with women who had navigated similar challenges. This stage of embeddedness allowed Maya to express her frustrations and learn from the experiences of others. As she grew more confident in her feminist beliefs, Maya began to appreciate the diversity of women's experiences, recognizing the importance of intersectionality in feminism. This emanation phase led her to advocate for not just gender equality but also racial, sexual orientation, and socioeconomic equity.

## Synthesis

Over time, Maya integrated her feminist identity with other aspects of her self-concept. She no longer saw her advocacy for women's rights as separate from her identity as a software engineer, friend, or family member. Maya's synthesis phase was marked by a balanced understanding of her multiple identities, allowing her to navigate her

personal and professional life through a feminist lens. She became proactive in addressing sexism, advocating for policies that support women in tech, and mentoring young women entering the field.

## Active Commitment

Fully embracing her feminist identity, Maya dedicated herself to making tangible changes in her community and workplace. She organized workshops on gender bias in tech, participated in panels discussing women's representation in STEM fields, and volunteered for organizations that support women in technology. Maya's actions reflect the active commitment stage, demonstrating an enduring dedication to feminist principles through her career choices and activism.

## Reflections on Maya's Journey

Maya's journey through the stages of Feminist Identity Development mirrors Anaya's experience (from Case Study 4) with racial identity development. Both narratives highlight the transformative power of personal revelations, the importance of community support, and the eventual integration of a new identity into one's self-concept. Maya, like Anaya, moves from a passive acceptance of societal norms to an active commitment to change, using her experiences to advocate for a more inclusive and equitable world.

Maya's story, while inspired by the FID model, also acknowledges the criticisms and expansions proposed by scholars like Bargad, Hyde, and Reid. It emphasizes the non-linear nature of identity development, the role of dual identities, and the importance of considering intersectionality. Maya's path to feminist identity development is unique to her experiences, reflecting the complexity and diversity of navigating gender identity in a world that is still grappling with sexism and inequality.

# LD.8: Case Study - "Ethan's Journey Through Faith: Unfolding Spirituality of Ethan, a White, Gay Male"

Approximate reading time: 3 minutes

Born in a traditional Christian family in Halifax, Ethan's spiritual journey reflects the deep connection between his faith and identity as a gay individual.

## Stage 1: Primal or Undifferentiated Faith "Baby Trust Stage"

In Ethan's early years (0-2), he was nurtured by his caring parents. This consistent love and care laid the foundation of trust and a sense of divine safety. He began to view the world as a comforting place where his needs would be met.

## Stage 2: Intuitive-Projective Faith "Imaginative Belief Stage"

During the ages of 3-7, Ethan began attending Sunday school and participating in family prayers, absorbing the Christian traditions of his family. His imagination flourished as he learned about biblical stories, merging this newfound knowledge with his existing understanding of the world.

## Stage 3: Mythic-Literal Faith "Literal Faith Stage"

As Ethan grew older (8-12), he joined a Christian community for kids. He began to comprehend faith more concretely, guided by his peers' and community's beliefs. For instance, Ethan began to accept God as a caring entity watching over him, mirroring his community's perspective.

## Stage 4: Synthetic-Conventional Faith "Group Belief Stage"

During his adolescence, Ethan conformed to the beliefs and practices of his family and community, often participating in religious events and activities. As he became aware of his sexual orientation, he felt conflicted, as his church held conservative views about homosexuality.

## **Stage 5: Individuative-Reflective Faith “Personal Belief Stage”**

In his young adulthood, Ethan began to question his inherited beliefs. He moved to Toronto for university, where exposure to diverse views on spirituality and sexual orientation prompted self-reflection. Ethan began to reconcile his faith with his identity as a gay man, forming an inclusive understanding of Christianity that respected his sexual orientation.

## **Stage 6: Conjunctive Faith “Mysterious Faith Stage”**

Entering mid-life, Ethan embraced the complexities and paradoxes of life and faith. He acknowledged that religious texts and interpretations could be flexible and multifaceted. This allowed him to appreciate the abstract elements of spirituality, mirroring his acceptance of abstract art’s varied interpretations.

## **Stage 7: Universalizing Faith “Selfless Faith Stage”**

In the later years of his life, Ethan dedicated himself to advocating for 2SLGBTQ+ inclusion in religious spaces. His faith became a driving force for his activism. His deep belief in love and acceptance for all, regardless of sexuality, demonstrated his transition to a selfless faith stage.

Ethan’s journey offers a remarkable perspective on how an individual’s spirituality can evolve over time, shaped by personal experiences, self-identity, and shifting understandings of the world.

# LD.9: Deep Dive - TV's Impact on Children and Youth

Approximate reading time: 5 minutes

For decades, researchers have studied television's role in children's development. Television serves as a potent source of educational and entertainment content for children and youth. For example, Sesame Street is a notable pioneer in educational entertainment for children. Studies reveal that consuming educational television programming can positively influence cognitive development and academic performance (Linebarger & Walker, 2005). However, television's impact is not solely positive.

In a famous natural experiment, Tannis MacBeth (Williams, 1986) researched television's potential impacts on children's academic performance and other behaviours. MacBeth's displacement theory, which posits that television viewing displaces time for educational activities, has found support in subsequent research (Sharif & Sargent, 2006; Gentile & Walsh, 2002). One of her most significant findings was the negative correlation between the amount of television watched and children's reading scores, indicating that increased television viewing can potentially hinder academic performance, particularly in reading (Williams, 1986). MacBeth also found that children who watched more television were more likely to display attention problems. Her work highlighted the potential detrimental effects of television, particularly when it replaces activities such as reading, contributing to a broader understanding of how TV can affect cognitive and behavioural development.

Furthermore, exposure to violent or aggressive content on television has been linked with increased aggression in children and youth (Williams, 1986; Anderson et al., 2001). This aggression might manifest in a variety of ways, including physical aggression or more subtle forms of relational aggression, underscoring the need to carefully curate the type of content children are exposed to. Conversely, prosocial content on television can facilitate the development of empathetic and helpful behaviours among viewers (Mares & Woodard, 2005). Thus, the type of content consumed significantly influences the impact of television viewing on children's behaviour.

Still, television's influence is multifaceted. While it may foster aggression if the content is violent (Huesmann et al., 2003; Paik & Comstock, 1994), it can also promote prosocial behaviour when the content encourages education and empathy (Mares & Woodard, 2005; Wilson, 2008). However, these impacts are not uniform; they can differ based on children's demographic backgrounds and identities.

Television's influence on children and youth, particularly those from marginalised communities, such as girls, young people of colour, LGBTQ+ individuals, and other marginalised children and youth, is complex and multifaceted. While television can be a valuable educational tool and source of entertainment, it can also perpetuate stereotypes, promote harmful biases, and foster a negative self-image.

For instance, studies have indicated that women and girls are often underrepresented in television programming and, when present, are frequently portrayed in stereotypical or objectifying roles (Lauzen et al., 2008). This can contribute to the development of sexist attitudes, impact girls' self-esteem, and limit their aspirations (Signorielli, 2009). Similarly, television often presents racially stereotyped characters. For example, people of color are frequently depicted in subordinate roles, while white characters are more often in positions of power (Mastro & Behm-Morawitz, 2005). This unequal representation can reinforce racial stereotypes and perpetuate harmful biases (Ramírez Berg, 2002).

LGBTQ+ individuals also face stereotyping and underrepresentation in television programming. When LGBTQ+ characters do appear on television, they often conform to narrow, negative stereotypes or are included primarily to provide comedic relief or dramatic tension (Gross, 2001). This lack of diverse, positive representation can lead to

misconceptions and bias among viewers and can also contribute to feelings of invisibility or exclusion among LGBTQ+ youth (GLAAD, 2021).

Mainstream television can enforce gender stereotypes among African American and Latina girls (Ward, 2004); minority children and youth may face more exposure to violence on TV, increasing their aggression (Huesmann et al., 2003). Disabled children may face stigmatisation and stereotyping from television representation, negatively impacting their identity development (Ellis & Goggin, 2015).

In light of these findings, there's a clear need for more equitable representation and portrayal of marginalised communities in television programming, which could contribute to reducing their harmful impacts. MacBeth's contributions have been pivotal in emphasizing the need for moderation and thoughtful programming in children's television viewing habits.

# LD.10: Deep Dive - Cell Phones' Impact on Children and Youth

Approximate reading time: 4 minutes

Cell phones, particularly smartphones, have become ubiquitous in the lives of children and youth, presenting both challenges and benefits to their development. One of the primary challenges associated with cell phone use is distraction, which can have negative consequences for academic activities (Lepp et al., 2015; Sampasa-Kanyinga & Lewis, 2015). The constant availability of cell phones can disrupt students' focus and attention, potentially impacting their ability to concentrate on schoolwork and perform well academically. Research has shown a negative relationship between high-frequency cell phone usage and academic performance, suggesting that excessive use of cell phones can impede learning and hinder educational outcomes (Lepp, Barkley & Karpinski, 2014).

Despite the potential drawbacks, cell phones also offer various benefits to children and youth. They serve as platforms for communication, internet access, and social connectivity, enabling individuals to stay connected with friends and family (Valkenburg & Peter, 2007). Online communication through cell phones can be particularly important for marginalised groups, such as LGBTQ+ youth, as it provides a vital support network and a means of finding resources and information (Ybarra et al., 2015). Cell phones can foster positive social interactions and contribute to a sense of belonging and connectedness, which are crucial for overall well-being.

However, cell phones can also be associated with negative experiences, such as cyberbullying. While online communication has the potential to facilitate positive interactions, it can also become a platform for bullying and harassment (Kowalski et al., 2014). Marginalized youth, including LGBTQ+ individuals, are particularly vulnerable to cyberbullying, facing higher rates of online harassment compared to their heterosexual counterparts (Hinduja & Patchin, 2010). This highlights the need for effective strategies to address cyberbullying and create safe online environments for all children and youth.

It is important to recognise that the impacts of cell phone use are not uniform and can vary depending on individuals' identities and experiences. For marginalised youth, cell phones can offer a lifeline of support and connection, providing access to resources and communities that may otherwise be inaccessible. However, these same individuals may also face increased risks and vulnerabilities, including cyberbullying and online harassment. It is crucial to consider these differential impacts and implement strategies that promote positive cell phone use while mitigating the potential negative effects on marginalised children and youth.

In addition to academic and social impacts, excessive cell phone use has been linked to mental health issues, particularly among adolescents. Studies have shown a correlation between high screen time on mobile phones and higher rates of anxiety and depression (Twenge et al., 2018). The constant exposure to screens and online content can contribute to feelings of loneliness and dissatisfaction with self in comparison to the perceived worth of others, leading to negative psychological outcomes. Balancing cell phone use and promoting healthy digital habits are essential for supporting the mental well-being of children and youth.

In conclusion, cell phones have become integral to the lives of children and youth, offering both benefits and challenges. While they provide opportunities for social connectivity, educational enrichment, and resource access, they can also be sources of distraction, cyberbullying, and mental health issues. Recognising the differential impacts of cell phone use and implementing strategies to maximise the benefits while minimising the risks is crucial for promoting healthy development among children and youth.

# LD.11: Deep Dive - Social Media's Impact on Children and Youth

Approximate reading time: 3 minutes

Social media platforms have profoundly influenced the experiences of children and youth, offering unique opportunities for self-expression, peer interaction, and community building (O'Keeffe & Clarke-Pearson, 2011). They provide spaces for creativity, digital literacy development, and collaborative learning (Greenhow & Lewin, 2016). However, excessive social media use can have negative consequences, including decreased school performance due to distractions and reduced study time (Kirschner & Karpinski, 2010). Additionally, research has shown a correlation between heavy social media use and increased symptoms of anxiety and depression among young people (Twenge et al., 2018).

The impact of social media on aggression and prosocial behaviours is multifaceted. Exposure to aggressive online behaviour, such as cyberbullying, has been associated with increased aggression in users (Kowalski et al., 2014). Conversely, social media platforms also offer spaces for positive interactions and the promotion of prosocial behaviours (Runions et al., 2017). Therefore, the effects of social media on children and youth depend on individual usage patterns, characteristics, and the nature of their interactions on these platforms.

Marginalized children and youth, including girls, young people of colour, 2SLGBTQ+ individuals, and other marginalized groups, face both empowering and harmful aspects of social media. These platforms can provide spaces for identity exploration, community building, and advocacy among 2SLGBTQ+ youth (Craig & McInroy, 2014). However, they are also vulnerable to online harassment, discrimination, and cyberbullying (Tynes et al., 2008). Girls and young women are particularly susceptible to online sexual harassment and body shaming, which can negatively impact self-image and mental health (Barter et al., 2017; Fardouly et al., 2015; Woods & Scott, 2016).

Similarly, young people of colour and 2SLGBTQ+ individuals often experience targeted harassment and hate speech on social media platforms (Tynes et al., 2008). Racialised and 2SLGBTQ+ youth report higher rates of cyberbullying compared to their peers (Schuster & Bogart, 2016). These experiences can contribute to increased mental health risks, including anxiety, depression, and lower self-esteem (McInroy, 2016).

Despite the challenges, social media can also be a powerful tool for resilience and advocacy among marginalised communities. Many marginalised young people utilize these platforms to build supportive networks, raise awareness about the issues they face, and advocate for social change (Bond et al., 2017).

Overall, social media has both positive and negative impacts on the development of children and youth. While these platforms provide opportunities for self-expression, peer interaction, and community building, they can also be associated with distractions, mental health issues, and the perpetuation of harmful behaviours. Marginalized children and youth face unique challenges, such as online harassment and discrimination, but they also find spaces for empowerment, identity exploration, and activism. To maximize the benefits and mitigate the risks, it is important to promote digital literacy, foster safe online environments, and support marginalized individuals in navigating social media platforms effectively.

# LD.12: Deep Dive - The Impact of Video Game on Children and Youth

Approximate reading time: 2 minutes

Video games play a significant role in the development of children and youth, offering a mix of benefits and challenges. Video games can enhance cognitive skills, such as problem-solving abilities and spatial awareness (Granic, Lobel, & Engels, 2014), and foster cooperation and empathy through prosocial games (Gentile et al., 2009). The inclusion of violent content, however, has been linked to increased aggression in players (Anderson et al., 2010). Video games also have the potential to detract from academic pursuits, depending on the nature and duration of play (Posso, 2016; Skoric et al., 2009). Additionally, the portrayal of characters in video games often lacks diversity, reinforcing stereotypes and marginalizing minority gamers (Williams et al., 2009), which can perpetuate sexism, racism, and discrimination against 2SLGBTQ+ individuals within gaming communities (Fox & Tang, 2017; Leonard, 2006; Shaw, 2009).

The impact of video games extends into the realm of social interaction and identity formation, particularly for marginalized groups. Women and girls frequently encounter sexism and harassment, while characters representing people of colour and 2SLGBTQ+ individuals are often riddled with stereotypes or are underrepresented, contributing to a culture of exclusion and bias (Dill & Thill, 2007; Gray, 2018). Addressing these issues is crucial for fostering inclusive gaming environments that reflect and respect the diversity of players. This includes challenging harmful stereotypes, promoting equitable access to gaming technologies, and ensuring that gaming platforms are welcoming for all, regardless of gender, race, or sexual orientation (Robinson et al., 2015).

In summary, while video games have the potential to contribute positively to cognitive development and social skills, their content and the dynamics within gaming communities can also lead to negative outcomes, such as increased aggression and the reinforcement of societal biases.

# CHAPTER 12. EMOTION

# EM.1: Case Study - Praveen: Emotions, Feelings, Moods, Meta-moods, Emodiversity and Losing a Video Game

Approximate reading time: 3 minutes

Praveen is an avid gamer. He's been passionate about video games since his early teens and often uses them as a way to unwind after a long day at university. One evening, after a particularly challenging day, Praveen decided to play his favourite multiplayer online game.

- **Emotions:** During a particularly intense match, an opponent's unexpected move led to Praveen's character being defeated. This sudden event triggered a rush of adrenaline in Praveen, causing his heart rate to spike and his palms to sweat. This immediate and intense physiological reaction to the in-game event is his emotion.
- **Feelings :** After the initial shock of the unexpected move, Praveen recognized and labeled his physiological emotion. He thought, "I can't believe that just happened! I'm so frustrated!". This conscious awareness and interpretation of his physiological state is his feeling. It's like him thinking, "This game always gives me the feels, especially during moments like this!"
- **Moods:** As the evening progressed and even after he stopped playing, Praveen was a bit down. This wasn't just about his earlier in-game loss, but a more prolonged and subtle state affecting his behaviour and interactions. This general sense of melancholy, not as intense as his earlier emotion but lingering, is his mood.
- **Meta-moods:** Before going to bed, Praveen reflected on his gaming experience and his subsequent mood. He journaled, "Today's game was intense. I felt such a rush during that match, but afterward, I felt a bit down. It's interesting how a game can affect my mood for hours. I wonder why I let it get to me so much?" This introspection about his own emotional state, his reflection on his mood, is his meta-mood.
- **Emodiversity:** The following evening, Praveen felt a lot of different emotions. His new victorious game strategy made him feel proud; mentoring a new player made him feel warmth; and getting praised by an expert gamer made him feel encouraged. Even when Praveen lost another game, his frustration was now mixed with amusement. This emodiversity, Praveen noted, made his play more fulfilling. He journaled, "Today's session was full of ups and downs in emotions, making me feel more alive and less knocked down by the lows."

In Praveen's gaming adventure, we see how emotions, feelings, moods, meta-moods, and emodiversity work together. Emotions are the immediate reactions; feelings are the stories we tell ourselves about these reactions; moods are the lingering states that colour our world; meta-moods are our reflections on these experiences; and emodiversity is our wide, colourful range of emotions. Through understanding and introspection, Praveen, like all of us, can navigate the complex and finer details of his emotional landscape and deepen self-awareness.

# EM.2: Deep Dive - How Our Feeling of Disgust Can Be Used to Reinforce Racial, Gender, Sexual and Other Prejudices

Approximate reading time: 3 minutes

Disgust, while serving an evolutionary purpose in protecting humans from harm, can also be manipulated within societies to foster and sustain prejudice against certain groups or behaviours. This process often begins by associating a particular group or behaviour with negative or harmful attributes. For instance, by repeatedly portraying a specific community in media or discourse as unclean or unhealthy, society can instill a sense of disgust towards that group. This portrayal can be subtle, e.g., through language that subtly conveys notions of contamination or, more overtly, through images that exaggerate or fabricate unhygienic practices.

Once the association is established, the emotion of disgust starts to act as a barrier, preventing empathetic or rational engagement with the targeted group. This barrier is not just psychological; it can manifest in physical avoidance or exclusionary practices, further entrenching the divide. The targeted group becomes not just othered but actively repelled, making it easier for societal norms and laws to reflect and reinforce this exclusion without significant public outcry or resistance.

Moreover, by promoting the reaction of disgust, the perpetrators leverage social learning mechanisms in which individuals learn behaviors and attitudes by observing others, especially authority figures or peers. Leaders or influential figures who express disgust towards a group or behavior legitimise and normalise that reaction in the wider population. Over time, this learned disgust becomes deeply ingrained and is often passed down through generations, making it a persistent aspect of societal prejudice.

The maintenance of prejudice through disgust is further reinforced by the emotion's self-reinforcing nature. Once an aversion is established, individuals are less likely to seek out counter-narratives or experiences that might challenge their prejudiced views. This avoidance ensures that the initial disgust response is not questioned but rather continuously validated, by selective engagement with information and experiences that confirm the prejudiced stance.

Understanding how disgust can be taught and used to maintain prejudice underscores the importance of critically examining our emotional responses and the societal narratives that shape them. By recognising and challenging the use of misplaced disgust, societies can work towards dismantling prejudices and building more inclusive and empathetic communities.

# EM.3: Deep Dive - Disgust: Why It's Both a Necessity and a Problem

Approximate reading time: 55 minutes

## CBC Radio Ideas

Listen to Podcast: [CBC Radio: Ideas: DISGUST: Why it's both a necessity and a problem \(54 minutes\)](#)

# EM.4: Deep Dive - Part 1: At the Movies - The James-Lange Theory in Action

Approximate reading time: 3 minutes

Imagine sitting in a darkened movie theatre, engrossed in a suspense-filled chase scene. According to the James-Lange theory, you first observe your physiological responses (such as your heart racing or your palms sweating) and then, as a result of perceiving these bodily changes, you experience the emotion of fear.

Here's how it might unfold in the cinema setting:

- **Physiological Response:** As the chase scene intensifies, your body reacts. Your heart rate increases, your muscles tense, and your breathing quickens.
- **Perception of Physiological Changes:** You become aware of these physical changes. Perhaps you notice the clamminess of your palms or the rapid beating of your heart.
- **Emotional Experience:** Only after recognizing these physiological signs do you identify the emotion you're feeling as fear.

In this scenario, the James-Lange theory suggests that the fear is not directly caused by the suspenseful images on the screen but rather by the perception of your body's responses to those images. If, for some reason, you didn't experience the physiological changes (say, your heart rate remained steady), the theory would predict that you wouldn't feel afraid.

Critics of the James-Lange theory might point out that people can feel emotions without overt physiological changes or that different emotions can produce similar physiological responses, making it difficult to distinguish between them based solely on bodily cues. For example, if you were to watch the same scene multiple times, your physiological reactions might diminish, but you could still experience fear due to your cognitive appraisal of the scene, memories, or cultural background. This suggests that while the James-Lange theory provides valuable insights, it might not capture the full complexity of emotions in all scenarios.

# EM.5: Case Study - Part 2: At the Movies - The Cannon-Bard Theory in Action

Approximate reading time: 3 minutes

Envision yourself settled comfortably in a movie theatre, absorbed in a high-tension chase scene. The Cannon-Bard theory presents a different sequence of emotional experiences than the James-Lange theory. It suggests that when you witness an emotionally charged event, your physiological arousal and emotional experience happen at the same time and independently of one another.

Here's how the experience might play out according to the Cannon-Bard theory:

- **Simultaneous Response:** As the chase scene on the screen reaches its peak intensity, two things happen at once: your body responds with an increased heart rate, muscle tension, and rapid breathing, and you simultaneously experience the emotion of fear.
- **Independence of Responses:** The Cannon-Bard theory suggests that these two responses are independent of each other. Your feeling of fear doesn't arise because you've noticed your heart racing; rather, both the physiological arousal and the emotional experience are triggered simultaneously by the suspenseful scene.
- **Cerebral Processing:** According to the theory, the thalamus in the brain plays a critical role. It receives the sensory information from the scene and then relays it simultaneously to the cortex (producing the conscious feeling of fear) and to the sympathetic nervous system (resulting in the physiological arousal).

In this cinema scenario, the Cannon-Bard theory would argue that you don't feel scared because your heart is racing; instead, your heart is racing at the same time that you're feeling scared, both reactions triggered by the thrilling chase scene you're watching.

Opponents of the Cannon-Bard theory could point out that the theory does not explain the intricate relationship between our body's physiological responses and our emotional experiences. For instance, it does not fully address how and why we sometimes see a lag between an event and our emotional reaction to it, or why we might feel emotions deeply even in the absence of intense physical reactions, such as a racing heart or sweating. After all, we may be sweating because the room is hot, not because we are having an emotional experience.

Despite these criticisms, it's important to recognize the key insight offered by the Cannon-Bard theory: emotions are complex experiences. They are not simply a by-product of our physical reactions; rather, emotions and physical states often happen concurrently, enriching our understanding of how we experience feelings.

# EM.6: Deep Dive - Part 3: At the Movies -The Schachter-Singer Two-Factor Theory in Action

Approximate reading time: 3 minutes

Picture yourself back in the movie theatre, this time caught up in a scene that's a masterful blend of suspense and potential triumph. As the hero dangles from a cliff, your body reacts with a surge of physiological arousal: your heart races, your palms sweat, and your breathing quickens. The Schachter-Singer Two-Factor Theory suggests that it's not just this arousal that defines your emotion, but also how you cognitively interpret this arousal in context.

Here's how it plays out according to the theory:

- **Physiological Arousal:** The intense scene triggers an automatic, physiological response in your body similar to the fight-or-flight reaction; a surge of adrenaline that primes you for action.
- **Cognitive Appraisal:** You're aware of this arousal, but it's ambiguous on its own. You look for cues in your environment to make sense of it. Is it fear, excitement, or perhaps a mix of both? Your cognitive appraisal of the situation, informed by the context of the movie, labels this arousal.
- **Emotional Experience:** Based on your appraisal, you experience an emotion. Because you're in a safe environment, watching a story of potential triumph, you interpret your physiological arousal as excitement and thrill, rather than fear. However, had you appraised the situation differently — say, as a real threat — you might have experienced fear instead.

Schachter and Singer's theory illuminates why two people can have different emotional reactions to the same movie scene. One person might appraise the hero's dangerous situation as thrilling (excitement), while another, perhaps recalling a personal fear of heights, might appraise it as terrifying (fear).

In one of their most influential experiments, Schachter and Singer demonstrated that the same physiological arousal could be labeled differently depending on context and expectation, leading to different emotional experiences. Similarly, in the cinema, your physiological response could be labeled differently depending on whether you're engaged in the narrative, recalling personal experiences, or perhaps even expecting a different movie genre. This cognitive appraisal, influenced by many factors, ultimately shapes your emotional experience in the theatre.

# EM.7: Deep Dive - Part 4: At the Movies -The Cognitive-Mediational Model at the Movies

Approximate reading time: 3 minutes

Once again, imagine you are back at the movie theatre, settling into your seat with popcorn in hand, ready to watch a new thriller movie. The lights dim, the movie starts, and you find yourself immersed in the story.

1. **Stimulus:** On the screen, there's a sudden twist in the plot. The hero is unexpectedly betrayed by their closest ally.
2. **Cognitive Appraisal:** As you watch this betrayal unfold, your mind quickly interprets and assesses the situation. You think to yourself, "This is so unfair and unexpected. The hero must feel devastated!". Your appraisal of the situation is that it's unjust and shocking.
3. **Emotional Response:** Based on your cognitive appraisal of the betrayal, you feel a surge of empathy and anger. Your emotion is not a direct result of the scene, but one of your personal interpretation and judgment of the events on the screen.
4. **Physiological Response:** Following the emotional response of anger and empathy, you might notice a change in your physiological state — perhaps your brows furrow, and your grip on the popcorn tightens.

In this example, the cognitive mediational model highlights that the emotion you felt (anger and empathy) was mediated (influenced or determined) by your cognitive appraisal of the betrayal in the movie. Your emotional experience wasn't a direct reaction to the plot twist; instead, it was shaped by your personal interpretation of the events. This demonstrates the central premise of the cognitive mediational model — that our cognitive appraisal (our evaluation or interpretation) of a situation is crucial in determining our emotional response.

# EM.8: Deep Dive - Part 5: At the Movies Raw “Gut Feeling”

Approximate reading time: 3 minutes

Are you ready to go back to the movies again? Imagine you’re sitting in a dimly lit movie theatre, the screen flickers, and an image slowly comes into focus. As the scene unfolds, you find yourself gripping the armrests. There’s no overt threat, no menacing music telling your body there is something to be afraid of. Yet, you feel an unmistakable sensation of dread. This is the power of cinema — to elicit an emotional response that doesn’t require a narrative to explain why you feel the way you do.

Consider a scene where the camera navigates a narrow hallway. The walls are covered with peeling paint, and the floor creaks with each step. There’s a heaviness to the air itself, almost like a silent character in the scene. You haven’t yet learned what waits at the end of that hallway, but your heart races. This reaction is not born from a cognitive appraisal of the situation; rather, it’s a “raw gut feeling”. It bypasses detailed understanding and leaps straight to emotional experience.

Your brain is responding to a collection of sensory stimuli: the visual details, the sounds, and the implied tension communicated through the director’s choices. Like Zajonc’s (1980) theory suggests, you’ve formed an instantaneous emotional reaction without a detailed, cognitive interpretation of the scene.

This kind of emotional response is rooted in the neuroscience of emotions. As you watch the scene, your amygdala is activated, responding to the potential threat suggested by the cinematic elements. The dread you feel is part of an emotional response that doesn’t necessarily involve the higher cognitive processes of your cortex. You’re not thinking about why you should be afraid; you just are.

As the film continues, you’ll encounter moments where the narrative provides context for your emotions, but this initial, raw fear is visceral and immediate, demonstrating the concept that some emotional responses in the realm of movies are as direct and unmediated as the perception of a sudden flash of light or a loud noise in a quiet room.

# EM.9: Deep Dive - Part 6: At the Movies

## Emotions in Traditional Chinese Medicine at the Movies

Approximate reading time: 3 minutes

Imagine you're at the movies, ready to dive into the emotional depth of a drama film. As the story unfolds, you're drawn into the narrative.

- **Stimulus:** On the screen, the hero experiences a profound loss, just like one you experienced recently. Witnessing the hero's loss and agonising grief deeply affects you as you empathise with them. You are with your friends and don't want to be seen or heard weeping. Your choice is to cry and sniff and blow your nose or hide your feelings of grief and stop yourself from crying.
- **Emotional Response:** In the context of TCM, your response to this scene is immediate and visceral. You feel a wave of grief that seems to resonate within your chest, an area that TCM associates with the lungs.
- **Body Response:** According to TCM, the lungs are the organ where grief is processed. As you stifle your tears and maintain a strong exterior, you might experience a sensation of constriction in your chest. This is the qi, or vital energy, being affected by your suppressed emotions. TCM teaches that the release of tears could help move this stagnant energy, but by holding them back, you risk creating an imbalance that could manifest as physical symptoms.

In this TCM-informed example, your emotional experience (i.e., grief) and organs (i.e., lungs) are intertwined. TCM teaches us that we can find the same interdependence between joy-heart, anger-liver, worry-spleen, and fear-kidney. Traditional Chinese Medicine (TCM) provides a holistic perspective on emotions, deeply rooted in successful health care practices and theories that have served billions of people around the world for millennia. It diverges from modern scientific theories by situating emotions within specific organ systems and associating them with elemental forces of nature; emotional states are directly linked to physical well-being.

# EM.10: Deep Dive - Explore the Brain Anatomy

Approximate reading time: 3 minutes

You can explore this [3D model of a human brain](#) to refresh your memory about the hypothalamus, thalamus, amygdala, and the hippocampus.

# EM.11: Case Study - Eleanor's Journey Through Emotional Geographies

Approximate reading time: 6 minutes

Eleanor is a Squamish (Sḵw̱wú7mesh) 80-year-old woman who has spent the last 40 years of her life in the vast grasslands of Alberta. The memories of her childhood and early adulthood on the coast and in the mountains of British Columbia have always been a distant echo, but now, she's about to embark on a journey back to those lands for a family reunion. As she travels, Eleanor's experiences offer a vivid exploration of the various facets of emotional geographies.

- 1. Emotion and Place Interaction:** As Eleanor's train winds its way through the coastal regions of British Columbia, she gazes out of the window, her eyes catching the familiar sight of the Pacific Ocean. The vast expanse of blue evokes a flood of memories. She recalls the days she spent as a child, playing on the sandy beaches, the salty breeze blowing through her hair. The ocean, with its rhythmic waves, brings back feelings of joy, freedom, and the innocent adventures of her youth.
- 2. Social and Cultural Dimensions:** Arriving at her hometown, Eleanor is greeted by the familiar sights and sounds of the local market. She hears vendors calling out in the dialect she grew up with, a language she hasn't heard in decades. The aroma of freshly caught fish, the vibrant colours of Indigenous crafts, and the traditional songs playing in the background transport her back in time. These cultural markers remind Eleanor of the unique ways her community expressed joy, sorrow, and love, deeply intertwined with the land they inhabited.
- 3. Embodied Emotions:** The family reunion is held at the base of the mountains, a place Eleanor remembers hiking with her siblings. As she walks the trails, the cool mountain air fills her lungs, and the scent of pine is unmistakable. Every step on the moss-covered ground, every rustle of the leaves, resonates in her body, evoking a sense of belonging and grounding. The physical sensations remind her of the days when her body was younger and more agile, but the emotional connection to the land remains unchanged.
- 4. Emotions in Everyday Spaces:** The reunion venue is her ancestral home, a quaint wooden house overlooking the sea. As Eleanor steps inside, she's immediately enveloped by the warmth of the fireplace and the familiar scent of aged wood. The living room, with its old photographs and hand-knitted blankets, holds stories of everyday joys and sorrows. The kitchen, where her mother's recipes will come to life once again, evokes memories of laughter, shared meals, and the comforting embrace of family.
- 5. Emotions Evoked by Music and Other Media:** During her family celebration, the air is filled with the vibrant sounds of traditional Squamish (Sḵw̱wú7mesh) music, accompanied by the rhythmic beating of drums and the soft shuffle of dancing feet. Eleanor finds herself swaying to the music, the familiar tunes resonating deep within her, stirring memories of similar gatherings from her youth. The laughter, the dance, and the communal joy weave together, creating powerful emotions that transcend time and space. The music and dance not only evoke nostalgia but also a profound sense of belonging and identity, reminding Eleanor of the unbreakable bond she shares with her Land and her people.
- 6. Power Dynamics:** During the reunion, Eleanor engages in conversations with her younger relatives. They share stories of how the town has changed over the years, with certain spaces becoming more commercialized, while others remain untouched. Eleanor learns about the struggles of Indigenous communities in preserving their land against corporate interests. She's reminded of the power dynamics at play, how spaces that once felt safe and welcoming to her might now feel threatening to others due to societal changes and prejudices.
- 7. Black and Womanist perspectives:** Eleanor's journey shows us something important — our feelings are tied to our roots and the people before us. This idea, part of a womanist viewpoint, helps us understand that Eleanor's connection to her home and family isn't just about her own memories. It's also shaped by her identity and the

bigger picture of society's influences. As she revisits her old town and talks with relatives, she sees how things have changed and reflects on her community's strength against these challenges. Eleanor listens to and reflects on the stories told by her mother, aunts, and grandmothers. Their stories and feelings add depth to Eleanor's story, linking her personal emotions to wider social issues and showing how deeply our feelings are woven into our background and shared struggles.

Eleanor's journey back to British Columbia is more than just a physical trip; it's an emotional voyage through time and space. Through her experiences, we see the profound impact of places on our emotions, how culture and society shape our emotional landscapes, the role of our bodies in experiencing emotions, the significance of everyday spaces, music/media, and the ever-present power dynamics that influence our emotional experiences in spaces. Eleanor's story is a testament to the way emotional geographies shape our lives.

# EM.12: Deep Dive - A Three-Step Emoji Experiment for You to Try

Approximate reading time: 8 minutes

Let's revisit our opening story about Praveen losing during his video game. You are invited to try this experiment. Step #1: reread the story reprinted below. Step #2: reread the same story again, but this time with emojis included. Step #3: Observe how your experience of the story alters with the addition of emojis. Note any physical and emotional changes you experience. Based on your observations, do you believe that emojis function similarly to facial expressions in conveying and influencing emotions? Here are the stories for the three steps of this experiment:

## Step #1: Read Praveen's Story Without Emojis

Praveen is an avid gamer. He's been passionate about video games since his early teens and often uses them as a way to unwind after a long day at university. One evening, after a particularly challenging day, Praveen decided to play his favourite multiplayer online game.

- **Emotions:** During a particularly intense match, an opponent's unexpected move led to Praveen's character being defeated. This sudden event triggered a rush of adrenaline in Praveen, causing his heart rate to spike and his palms to sweat. This immediate and intense physiological reaction to the in-game event is his emotion.
- **Feelings (a.k.a. "The feels"):** After the initial shock of the unexpected move, Praveen recognized and labeled his physiological emotion. He thought, "I can't believe that just happened! I'm so frustrated!" This conscious awareness and interpretation of his physiological state is his feeling. It's like he's thinking, "This game always gives me the feels, especially during moments like this!"
- **Moods:** As the evening progressed and even after he stopped playing, Praveen found himself a bit down. This wasn't just about his earlier in-game loss but was a more prolonged and subtle state affecting his behaviour and interactions. This general sense of melancholy, not as intense as his earlier emotion but lingering, is his mood.
- **Meta-moods:** Before going to bed, Praveen reflected on his gaming experience and his subsequent mood. He journaled, "Today's game was intense. I felt such a rush during that match, but afterward, I felt a bit down. It's interesting how a game can affect my mood for hours. I wonder why I let it get to me so much?" This introspection about his own emotional state, his reflection on his mood, is his meta-mood.
- **Emodiversity:** The following evening, Praveen's gaming was marked by a spectrum of emotions. His new victorious game strategy made him feel proud; mentoring a novice made him feel warmth; and getting praised by an expert gamer made him feel encouraged. Even when Praveen lost another game, his frustration was now mixed with amusement. This emodiversity, Praveen noted, made his play more fulfilling. He journaled, "Today's session was a roller coaster of emotions, making me feel more alive and less knocked down by the lows."

In Praveen's gaming adventure, we see the interplay of emotions, feelings, moods, meta-moods, and emodiversity. Emotions are the immediate reactions, feelings are the stories we tell ourselves about these reactions, moods are the lingering states that colour our world, meta-moods are our reflections on these experiences, and emodiversity is our wide, colourful range of emotions. Through understanding and introspection, Praveen, like all of us, can navigate the complex and nuanced emotional landscape and deepen his self-awareness.

## Step #2: Reread Praveen’s Story With Emojis

Praveen is an avid gamer. He’s been passionate about video games since his early teens and often uses them as a way to unwind after a long day at university. One evening, after a particularly challenging day, Praveen decided to play his favourite multiplayer online game.

- **Emotions:** During a particularly intense match, an opponent’s unexpected move led to Praveen’s character being defeated 😞. This sudden event triggered a rush of adrenaline in Praveen, causing his heart rate to spike and his palms to sweat 😓. This immediate and intense physiological reaction to the in-game event is his emotion.
- **Feelings (a.k.a. “The feels”):** After the initial shock 😱 of the unexpected move, Praveen recognized and labeled his physiological emotion. He thought, “I can’t believe that just happened! I’m so frustrated!” 💎 This conscious awareness and interpretation of his physiological state is his feeling. It’s akin to him thinking, “This game always gives me the feels 💎, especially during moments like this!”
- **Moods:** As the evening progressed and even after he stopped playing, Praveen found himself a bit down 😞. This wasn’t just about his earlier in-game loss but was a more prolonged and subtle state affecting his behaviour and interactions. This general sense of melancholy, not as intense as his earlier emotion but lingering, is his mood.
- **Meta-moods:** Before going to bed, Praveen reflected on his gaming experience and his subsequent mood. He journalled, “Today’s game was intense. I felt such a rush during that match 😊, but afterward, I felt a bit down 😞. It’s interesting how a game can affect my mood for hours. I wonder why I let it get to me so much?” This introspection about his own emotional state, his reflection on his mood, is his meta-mood.
- **Emodiversity:** The following evening, Praveen’s gaming was marked by a spectrum of emotions. His new victorious game strategy made him feel proud; mentoring a novice made him feel warmth 💎; and getting praised by an expert gamer made him feel encouraged 💎. Even when Praveen lost another game, his frustration 💎 was now mixed with amusement 😊. This emodiversity, Praveen noted, made his play more fulfilling. He journalled, “Today’s session was a roller coaster of emotions, making me feel more alive and less knocked down by the lows.”

In Praveen’s gaming adventure, we see the interaction of emotions, feelings, moods, meta-moods, and emodiversity. Emotions are the immediate reactions, feelings are the stories we tell ourselves about these reactions, moods are the lingering states that colour our world, meta-moods are our reflections on these experiences, and emodiversity is our wide, colourful range of emotions. Through understanding 💎 and introspection 💎, Praveen, like all of us, can navigate the complex and nuanced emotional landscape and deepen his self-awareness 💎.

## Step #3: Write Down Your Observations

Was your experience of the story any different with added emojis? Why or why not? Based on your observations only, do you believe that emojis function similarly to facial expressions in displaying and shaping your emotions?

# EM.13: Deep Dive - Curiology: The Science of Emojis with Various Emoji Experts

Approximate reading time: 155 minutes

## Podcast Hosted by Alie Ward

Here is one of my all time favourite podcasters, Alie Ward, interviewing world experts in the history, design, and psychology of emojis. Her scientist guests are fascinating. Here is a fun activity for you to try after listening to this interview in two parts. You may discover some of the emoji science we have covered in this chapter.

## Create Your Own New Emoji

Step #1 - LISTEN to these two [Podcast Part 1 and 2](#) (with transcript).

Step #2 - Create your own new emoji that you wish you could use to describe a subtle, unusual, wacky emotion that you sometimes feel.

## Sneak Peak

In her interview with emoji psychology researchers and emoji designers Alie Ward asks the following questions:

- “What’s the most embarrassing emoji?”
- “Were you on the board when they decided to make the syringe not have blood gushing out of it?”
- “What do you think is the most underused emoji?”
- “What’s the emoji that you’re like, “This one even exists?””
- “What’s one that you wish existed?”
- “And what about the actual nuts and bolts of drawing it?”
- “Do you remember the controversy with the squid?”
- “When you’re working with Unicode, where there’s a discussion about what’s coming up next, are there any emojis that are on the chopping block?”
- “Can I ask you some questions from listeners?”
- “Who decided to make the universal person emoji yellow?”
- “Don’t people associate yellow-people emojis as hate?”
- “Why do cats get facial expressions but not dogs?”

Alie also discusses the following topics with her curiology experts.

- Emoji fails

- That melting face emoji
- People Who Use Emojis Have More Sex
- Worth a thousand interpersonal words: Emojis as affective signals for relationship-oriented digital communication
- Tuned in on senders' self-revelation: Emojis and emotional intelligence influence interpretation of WhatsApp messages
- Through a Gender Lens: Learning Usage Patterns of Emojis from Large-Scale Android Users
- Mining the relationship between emoji usage patterns and personality
- Expression and perception of identity through skin-toned emoji
- Emojis as Digital Gestures
- Creators of Emojis
- Aubergine and peach emojis are used to refer to human anatomy

# EM.14: Deep Dive - A Concluding Poem to Help You Study

Approximate reading time: 3 minutes

Since this chapter is about emotions, let's have a little fun as we sum up this chapter using a poem written in rhyming couplets.

In this chapter, embark we did on a cerebral quest,  
Through the realms of emotion, we were richly blessed.

James then Lange, at the same time, did appear,  
"Body reacts first, then emotions, it's clear."

Cannon-Bard stood firm, with a confident chant,  
"Feel and react together, no sequential slant."

Schachter-Singer, together they sing,  
"Perception and arousal, together they cling."

Judgment leads in the cognitive-mediational creed,  
Emotions then follow, in thought and in deed.

Emotions as perceptions, raw and unrefined,  
In LeDoux's view, we can skip the cognitive mind.

TCM's wisdom, ancient and profound,  
Emotions in organs, with nature's elements bound.

Amygdala alerts, hippocampus binds,

Together in dance, emotions and memories they find.

Land stirs our souls, through place and time we roam,  
In every space, across all powers, emotions find their home.

In smiles and frowns our feelings dance, a silent language told at a glance.  
Beyond the face, the body speaks, in every gesture, an emotion leaks.

Emojis reflect our inner state, in digital discourse they communicate;  
Like facial cues in a silent dance, in texts and tweets, they enhance.

Challenging myths with a scientific lens we comprehend,  
Research reveals emotions in women and men don't on gender depend.

With science and insight, emotions we've traced, a narrative hearty,  
Who knew the science of feelings could be such a rollicking party?

# CHAPTER 13. MOTIVATION

# MO.1: Case Study - 15-year-old Robyn Wants to Quit School

Approximate reading time: 3 minutes

Robyn, a 15-year-old student at an inner city school, is contemplating leaving school. They face numerous challenges, both in their personal life and in their community, which make staying in school a difficult choice. However, Principal Singh, who has a keen interest in student welfare and a background in understanding motivational strategies, steps in with a plan to encourage Robyn to continue their education.



*Figure SUP MO.1. Robyn. Robyn, a 15-year-old student at an inner city school, who is contemplating leaving school.*

## Principal Singh's Interventions

- **Building a Personal Connection:** Takes the time to get to know Robyn, showing genuine interest in their life and experiences. This approach is crucial in establishing trust and respect, which are foundational for intrinsic motivation (Niemiec & Ryan, 2009).
- **Providing Autonomy in Learning:** Allows Robyn to have a say in their learning process and choices, thereby fostering a sense of ownership and control over their education (Deci et al., 1999).
- **Integrating Relevant Curriculum:** Incorporates topics and projects that align with Robyn's interests and life experiences, making learning more relevant and engaging for them (Ryan & Deci, 2020).
- **Offering Praise and Encouragement:** Focuses on Robyn's efforts and progress, rather than solely on achievements, to enhance their intrinsic motivation (Cameron & Pierce, 1994).
- **Creating a Sense of Belonging:** Encourages Robyn to participate in school clubs or teams that align with their interests, fostering a community feeling within the school (Osterman, 2000).

- **Setting Achievable Challenges:** Provides tasks that are challenging yet attainable, ensuring Robyn feels a sense of accomplishment and competence (Ryan & Deci, 2000).
- **De-emphasising Evaluative Pressure:** Reduces the focus on grades and tests, and instead emphasises learning and growth, to alleviate performance anxiety and enhance intrinsic motivation (Niemi & Ryan, 2009).
- **Promoting Resilience and Coping Skills:** Teaches and reinforces strategies for being resilient and coping with challenges, which are essential for students in difficult environments (Masten, 2014).
- **Involving Family and Community:** Engages with Robyn's family and community to create a support network that values education and supports their school journey (Henderson & Mapp, 2002).
- **Providing Mentorship Opportunities:** Connects Robyn with mentors who can offer guidance, support, and real-world insights into the benefits of education (Rhodes, 2002).

By implementing these strategies, Principal Singh aims to create an environment where Robyn feels valued, understood, and motivated to pursue their education despite the challenges they face. Each intervention is backed by research and tailored to address the specific needs and circumstances of students like Robyn in an inner city school.

## Image Attributions

Figure SUP MO.1. Photo by [Mary Taylor](#) is licensed under a [Pexels license](#).

# MO.2: Case Study - Maya's Journey: Harnessing Self-Efficacy and Social Motives in Entrepreneurship

Approximate reading time: 2 minutes



*Figure SUP MO.2. Maya and her eco-friendly clothing line.*

To illustrate the concepts of self-efficacy and social motives, let's consider the story of Maya, a young entrepreneur. Maya always dreamed of starting her own eco-friendly clothing line. This dream required not just creativity but a strong sense of self-efficacy, the belief in her ability to succeed in this challenging endeavour. Maya was confident in her skills and persisted through numerous obstacles, embodying the self-fulfilling prophecy of self-efficacy (e.g., Bandura, 1994). Her belief in her capabilities underscores the importance of such belief in challenging professional environments (e.g., Naegle & Fougere, 2017).

Maya's journey also intertwined with key social motives. Her ambition drove her to set and achieve significant milestones, like launching her first collection and getting featured in a major fashion magazine. Her need for affiliation was evident in her efforts to build a community around her brand, connecting with other eco-conscious entrepreneurs, joining sustainable fashion groups, and fostering a loyal customer base. This sense of belonging and community was crucial to her success (e.g., Murray, 1938).

Finally, Maya's pursuit of intimacy, going beyond superficial connections, was reflected in her close relationships with her team, mentors, and loyal customers (e.g., Murray, 1938). These deep, meaningful interactions provided emotional

support and valuable feedback, helping her refine her vision and grow her business. Maya's story is a testament to the power of self-efficacy and the influence of social motives in achieving personal and professional success.

## Image Attributions

Figure SUP MO.2. Maya and her eco-friendly clothing line by Rachel Lu is licensed under a [CC BY-NC-SA license](#).

# MO.3: Deep Dive - Balancing Hunger and Fullness with Ghrelin and Leptin

Approximate reading time: 2 minutes

Ghrelin and leptin are hormones that control hunger and fullness. Ghrelin, made in the stomach, tells your brain when to eat, increasing your appetite and fat storage (Espinoza García, Martínez Moreno, & Reyes Castillo, 2021). Leptin, produced by fat cells, signals when you're full, helping to reduce food intake and manage energy use (Mechanick, Zhao, & Garvey, 2018).

Studies have found that changes in the genes for ghrelin and leptin can influence how much someone wants to eat, especially foods high in calories, which can lead to obesity (Espinoza García et al., 2021). The balance between leptin and ghrelin, or their ratio, changes based on your diet and body weight, affecting your feelings of hunger and fullness (Adamska-Patruno et al., 2018).

Leptin doesn't just control appetite; it's also linked to heart health and obesity. High levels of leptin are associated with heart disease risks (Mechanick et al., 2018). Both hormones also play a role in how we feel and think, impacting our mood and social interactions (MacCormack & Muscatell, 2019).

In short, ghrelin and leptin are key to managing hunger, energy balance, and overall health. Understanding how they work can help address obesity and its related health issues (Espinoza García et al., 2021; Mechanick et al., 2018; Adamska-Patruno et al., 2018; MacCormack & Muscatell, 2019).

# MO.4: Deep Dive - Hungry for More: When Your Stomach Craves a Snack and Your Brain Craves Paper Clips

Approximate reading time: 3 minutes

Imagine you're really hungry, like you've missed lunch and it's way past dinner time. Now, if someone offered you a snack, you'd probably jump at the chance to eat it, right? But what if instead of a snack, they offered you something totally unrelated to food, like a pack of paper clips? Surprisingly, when you're hungry, you might find yourself more interested in grabbing those non-food items too. This is what researchers call the "spillover effect" of hunger.

A study done by Xu, Schwarz, & Wyer in 2015 found something pretty interesting about hunger. When people are hungry, not only do they want to eat food, but they also have a stronger desire to get their hands on things that aren't food at all, like paper clips in the study. The hungry participants were more likely to take more of these clips than those who weren't hungry, even though those clips couldn't do anything to satisfy their hunger.

So, why does this happen? It seems that when we're hungry, our brain's drive to acquire things kicks into high gear, not just for food but for anything. It's like our brain says, "I need food," but it also gets a bit mixed up and adds, "and while we're at it, let's grab other stuff too." The catch is, even though hungry people might grab more non-food items, they don't necessarily like those items any more than they would if they weren't hungry. They just have a stronger urge to collect things.

For psychology students, this spillover effect is a cool example of how a basic biological need, like hunger, can influence our behaviour in unexpected ways. It shows that our motivations aren't always straightforward or limited to directly solving our immediate needs. Hunger doesn't just make us seek food; it can make us want to acquire more stuff in general. This insight helps us understand the complex ways our physical states, like being hungry, can affect our actions and decisions, even in areas not directly related to those states.

# MO.5: Deep Dive - Hunger Games: When Wanting Beats Liking in the Fast-Food Arena

Approximate reading time: 3 minutes

Ever noticed how just seeing or smelling fast food can suddenly make you feel like you need to eat, even if you were fine a moment ago? It turns out, there's a whole science behind why that happens, and it's not just about your stomach looking for a fill-up. The study by Joyner, Kim, & Gearhardt (2017) investigates this phenomenon, revealing some intriguing insights about our eating behaviours.

## Behind the Scenes of the Study

The researchers set up a scenario that mimicked a fast-food environment, complete with all the visual and olfactory cues you'd encounter at your favourite burger joint. They wanted to see if these cues would affect how much people wanted to eat, their feelings of hunger, and ultimately, how much they ate. They compared reactions in this fast-food-like setting to those in a neutral environment, without these tantalizing cues.

## What They Found

- **The Power of Wanting:** Being surrounded by fast-food cues ramped up people's desire to eat more than when they were in a cue-free zone. Interestingly, this increase in "wanting" didn't come with a corresponding boost in "liking." Essentially, people didn't enjoy the food any more than usual; they just felt a stronger urge to eat it.
- **Hunger Games:** Just being in the presence of fast-food cues also made people feel hungrier than they did in a neutral setting. This suggests that our environment can directly influence our sense of hunger, tricking our brains into thinking we need food when we don't.
- **Eating More:** As expected, when people experienced heightened "wanting" and increased feelings of hunger due to the environmental cues, they ended up eating more.

## Why This Matters

This study sheds light on a critical aspect of eating behaviour: our environment can significantly influence how much we want to eat and how hungry we feel, independent of the actual taste of food. It's a fascinating insight into how just the sights and smells of fast food can drive us to eat more, potentially contributing to overeating and obesity.

## The Takeaway

Understanding the impact of environmental cues on our eating habits is crucial. It's not always about the food itself but how the context around us shapes our desire and hunger. This knowledge can be a powerful tool in developing strategies to manage eating behaviours and tackle public health issues related to diet and obesity.

So next time you find yourself suddenly craving fast food near a restaurant, remember, it might be the environment speaking to your brain, not your stomach signalling its need.

# MO.6: Deep Dive - Comparison of Average and Healthy Weights for Canadian Adults

Approximate reading time: 3 minutes

Table SUP MO.1. Comparison of average and health weights for Canadian adults

Category	Women	Men
Average weight is different than healthy weight	Average weight is 3.81 kg/8.4 lbs over the "healthy weight" zone	Average weight is within the "healthy weight" zone
Average weight	68.9 kg / 151.9 lbs	77 kg / 169.8 lbs
Upper healthy BMI limit	65.07 kg / 143.5 lbs	7.91 kg / 171.8 lbs
Lower healthy BMI limit	48.35 kg / 106.6 lbs	57.97 kg / 127.8 lbs
Average height	1.62 m / 5 feet 4 inches	1.77 m / 5 feet 10 inches

"Normal" weight is not the same as "healthy" weight. Example: Average Adult Canadian Women's and Men's average weight as compared to their healthy weight.

## Calculating Average Weights for Adult Canadian Women and Men

In the context of body weight and health, the term "normal weight" is often used to describe a weight range considered statistically average or typical. However, this term can be misleading, as "normal" in a statistical sense refers to what is most common, rather than what is necessarily healthy or optimal. A more appropriate term would be "healthy weight", which focuses on the health implications rather than the statistical frequency.

To illustrate this point, let's consider the average weights and heights of Canadian adults, and compare these to the recommended Body Mass Index (BMI) ranges. For Canadian women, the average weight is 68.9 kg (Adhikari, 2016). Assuming an average height of 1.62 meters (Statistics Canada, 2015), this translates to a BMI of approximately 26.2 kg/m<sup>2</sup>, which is at the higher end of the recommended BMI range of 21-27 kg/m<sup>2</sup> for women (Willett et al., 1995). Similarly, for Canadian men, the average weight is around 77 kg (Williamson, 1993). With an average height of 1.77 meters (Statistics Canada, 2015), this results in a BMI of about 24.6 kg/m<sup>2</sup>, aligning with the upper limit of the recommended BMI range for men, which varies with age (Yi et al., 2015).

These figures suggest that the average weight of Canadian adults, while "normal" in a statistical sense, is closer to the upper boundary of what is considered a healthy BMI. This observation underscores the importance of distinguishing between what is common and what is healthy. The term "healthy weight" more accurately reflects the weight range associated with the lowest health risks, as opposed to "normal weight", which merely reflects an average or typical weight in a given population.

This exercise in rough calculations is our way of proving that the use of the term "healthy weight" over the usual "normal weight" we see in psychological and medical publications is not just a semantic distinction but a necessary shift to emphasise health and well-being over statistical norms. This change in terminology can encourage a more health-focused perspective on weight, aligning public health messaging with health outcomes rather than statistical averages.

# MO.7: Deep Dive - Eating Disorders Research

Approximate reading time: 8 minutes

Recent research challenges the common perception that eating disorders predominantly result in healthy weight or under healthy weight. For instance, Swenne (2016) found that girls with restrictive eating disorders (limiting food intake to an extreme degree) who were previously overweight might present with a near-normal BMI (Body Mass Index, a measure of body fat based on height and weight), yet still experience significant medical and psychological issues. Additionally, Nagata et al. (2018) reported that over healthy weight or obese (having excess body weight or fat) young adults have a higher prevalence (more common occurrence) of disordered eating behaviours compared to their healthy weight or underweight counterparts. This is further supported by McCuen-Wurst et al. (2018), who noted that disorders like binge-eating disorder (BED, characterized by frequent episodes of eating large amounts of food) and night-eating syndrome (NES, characterized by excessive nighttime food consumption) are often associated with being overweight and/or obese, leading to weight gain and increased risk of metabolic dysfunction (problems with the body's process of converting food into energy).

Tanofsky-Kraff et al. (2004) observed that overweight children with eating disorders exhibit more disordered eating cognitions (thoughts) and behaviours than healthy weight children. Similarly, Sawyer et al. (2016) highlighted that atypical anorexia nervosa (an eating disorder characterized by significant weight loss and fear of gaining weight, but not necessarily resulting in underweight) leads to a significant number of adolescents being over healthy weight or obese, with severe physical and psychological illness or disease. These findings underscore the importance of recognizing that eating disorders can manifest across a spectrum of body weights, challenging the stereotype that they only occur in individuals who are underweight or of healthy weight.

People suffering from bulimia nervosa engage in binge eating behaviour that is followed by an attempt to compensate in three ways for the large amount of food consumed. Individuals will either purge the food by inducing vomiting or use laxatives to expel the food. Some affected individuals engage in excessive amounts of exercise to compensate for their binges.

Bulimia is associated with many adverse health consequences that can include kidney failure, heart failure, and tooth decay. In addition, these individuals often suffer from anxiety and depression, and they are at an increased risk for substance abuse (Mayo Clinic, 2012b). Recent research indicates that the prevalence of bulimia nervosa varies, with 0.1% to 2.6% of men and 0.6% to 10% of women experiencing the disorder in their lifetime (Elgin & Pritchard, 2006; Hudson et al., 2007; Keski-Rahkonen et al., 2008; Mohler-Kuo et al., 2016; Sandberg & Erford, 2013; Silén & Keski-Rahkonen, 2022; Thiels & Garthe, 2000).

As of the 2013 release of the Diagnostic and Statistical Manual, fifth edition, binge eating disorder is recognized by the American Psychiatric Association (APA). Unlike with bulimia, eating binges are not followed by compensatory behaviour, such as purging, but they are followed by distress, including feelings of guilt and embarrassment. The resulting psychological distress distinguishes binge eating disorder from overeating (American Psychiatric Association [APA], 2013).

Anorexia nervosa is an eating disorder characterized by the maintenance of a body weight well below average through starvation and/or excessive exercise. Individuals suffering from anorexia nervosa often have a distorted body image, referenced in literature as a type of body dysmorphia, meaning that they view themselves as overweight even though they are not. Like bulimia nervosa, anorexia nervosa is associated with a number of significant negative health

outcomes: bone loss, heart failure, kidney failure, amenorrhea (cessation of the menstrual period), reduced function of the gonads, and in extreme cases, death. Furthermore, there is an increased risk for a number of psychological problems, which include anxiety disorders, mood disorders, and substance abuse (Mayo Clinic, 2012a). Estimates of the prevalence of anorexia nervosa vary from study to study but generally range from just under one percent to just over four percent in women. Generally, prevalence rates are considerably lower for men (Smink et al., 2012).

While both anorexia and bulimia nervosa occur in men and women of many different cultures, White females from European/Settler societies tend to be the most at-risk population. Recent research indicates that females between the ages of 15 and 19 are most at risk, and it has long been suspected that these eating disorders are culturally-bound phenomena that are related to messages of a thin ideal often portrayed in popular media and the fashion world (Smink et al., 2012). While social factors play an important role in the development of eating disorders, there is also evidence that genetic factors may predispose people to these disorders (Collier & Treasure, 2004).

## Canadian Statistics on Eating Disorders

1. **Eating Disorders and Mortality:** Eating disorders are among the deadliest mental health conditions. In Canada, they affect around 25 million people who are 15 years or older (Bonder & Mantler, 2015).
2. **Death Rate:** About 8.4% of people with eating disorders die because of these conditions. This rate is especially high, nearly 15%, for women between the ages of 25 and 29 (C. Emborg, 1999).
3. **Suicide Risk:** Suicide is a leading cause of death among people with eating disorders. This risk remains high for at least eight years after they first seek help (G. Patton, 1988).
4. **Frequency of Deaths:** In Canada, at least one person dies every 62 minutes due to complications from an eating disorder (Pallanti & Salerno, 2020).
5. **Hospitalized Cases:** In a study from Ontario in 1995, more than 90% of people hospitalized for anorexia and bulimia were women (Gucciardi et al., 2004).
6. **Mortality Rate for Anorexia Nervosa:** In one study, the mortality rate for patients with anorexia nervosa was found to be 10.5, which is a statistical measure indicating a high risk of death (Birmingham et al., 2005).

These statistics highlight the severe impact of eating disorders, particularly on women, and the high risk of death associated with these conditions. They underscore the importance of recognising and treating eating disorders effectively.

Eating disorders have traditionally been viewed as psychological disorders characterized by abnormal eating habits, often linked to issues of control and self-esteem. Newer theories expand this view by incorporating the role of societal pressures and gender norms. Malson and Burns (2009) suggest that eating disorders should be understood in the context of cultural norms around body image and the societal expectations placed on women. Young women in our society are inundated with images of extremely thin models (sometimes accurately depicted and sometimes digitally altered to make them look even thinner). These images may contribute to eating disorders. (credit: Peter Duhon). This perspective highlights how cultural pressures to conform to certain body standards can contribute to the development of eating disorders. Additionally, feminist theories advocate for a more detailed understanding of eating disorders that goes beyond individual pathology and considers the broader social and cultural dynamics at play (Colăcel, 2016).

# MO.8: Case Study - Organising a Wilderness Camping Trip

Approximate reading time: 3 minutes

Imagine a group of 18-year-old high school graduates planning a wilderness camping trip to celebrate their graduation. The group is diverse, with varying levels of camping experience. The good news is that the campsite has stunning views and great hikes nearby. The bad news is that bears have been spotted nearby foraging for summer berries. This bad news is particularly stressing out the beginner campers.

## Finding the 'Just Right' Level of Alertness

As the camping trip approaches, the students experience different levels of arousal. Some are under-aroused, perhaps because they are seasoned campers and find the preparation to be routine. Others might be over-aroused due to the novelty and challenges of camping, like setting up tents or cooking outdoors, leading to anxiety. They are also a bit freaked out about the possibility of bumping into a bear while on a hike. The Optimal Arousal Model suggests that each student needs to find a balance to enjoy the trip fully.

## Managing Stress and Boredom

The under-aroused students, to combat boredom, might take on more challenging tasks like planning a hiking route or learning advanced outdoor survival skills. Some of these under-aroused students might even be tempted to get into a bit of mischief or goof around just to keep their minds busy. This extra activity increases their engagement and excitement. On the other hand, the over-aroused students should probably reduce their stress. They could do this by familiarizing themselves with camping equipment in advance or pairing up with more experienced campers for support around what to do if they see a bear.

## Applying the Yerkes-Dodson Law

The trip involves a mix of simple tasks (like setting up a tent) and complex ones (like navigating a hiking trail). According to the Yerkes-Dodson law, the students should be more alert for the simple tasks but more relaxed for the complex ones. For instance, they might approach tent setting with enthusiasm and energy, but adopt a calm and focused approach for hiking to ensure safety and enjoyment.

# MO.9: Deep Dive - Learn More About Cindy Blackstock, a Canadian Hero

Approximate reading time: 100 minutes

CBC radio, Unreserved: [‘A mountain of power’: The impact of Cindy Blackstock](#)

Watch this video: [Dr Cindy Blackstock on Breath of Life theory and Leadership \(47 minutes\)](#)



*One or more interactive elements has been excluded from this version of the text. You can view them online here:*

<https://opentextbc.ca/psychologymtdisupplement/?p=223#oembed-1>

“Dr Cindy Blackstock on Breath of Life theory and Leadership” video by Kath Bishop is licensed under the Standard YouTube licence.

# MO.10: Deep Dive - Procrasti-NOT Website: More Ways to Stop Procrastinating

Here are more follow-ups to offer you from [Oregon State University's website: "Procrasti-NOT"](#). Please choose as many of the optional procrastination-free desserts as you wish.

1. [Step by step: Set strong goals](#)
2. [WOOP: A goal setting process \(one of my favourite techniques for my comic-based sessions on making positive changes\).](#)
3. [Make your goals SMART](#)
4. [Procrastination Awareness Plan](#)
5. [Procrastination Management](#)
6. [Where Do You Procrastinate](#)
7. [To Procrastinate: Obstacles and Opportunities](#)
8. [6 Reason People Procrastinate](#)
9. [Breaking Down My Week](#)
10. [Make a 7 day study plan](#)
11. [Motivation Techniques](#)
12. [Procrasti-NOT](#)

# CHAPTER 16. GENDER, SEXUALITY AND ANTI-OPPRESSION

# GS.1: Deep Dive - Video: Meg Hickling - Is it Time to Modernize Sex Ed?

Approximate reading time: 2 minutes

Watch this video: [Is it time to modernize sex ed? \(1.5 minutes\)](#)



*One or more interactive elements has been excluded from this version of the text. You can view them online here:*

<https://opentextbc.ca/psychologymtdisupplement/?p=229#oembed-1>

“Is it time to modernize sex ed?” video by Vancouver Sun is licensed under the Standard YouTube licence.

# GS.2: Deep Dive - What is the Biology Behind Why Consent Takes Time?

Approximate reading time: 5 minutes

## Interoception, Unmyelinated Nerves, and Consent

Unmyelinated nerves are like electrical wires without insulation. They don't have a protective myelin sheath, so they send signals more slowly than myelinated nerves. The signal moves in a smooth, continuous wave along these nerves. These unmyelinated nerves are important for picking up feelings from inside our body, like how full your stomach is, if you're feeling warm, or if you are feeling sexual arousal. Unmyelinated nerves are approximately 7 times slower<sup>[1]</sup> than the fast moving signals on myelinated nerves. What does nerve conduction along unmyelinated nerves have to do with sexual arousal?

Nerve conduction along unmyelinated nerves is crucial for sensing sexual arousal because these nerves are responsible for transmitting the slower, more gradual sensations associated with sexual arousal. Unlike the quick, sharp pain of a finger cut transmitted by fast myelinated nerves, the sensations of sexual arousal are more complex and diffuse. They involve a mix of different types of nerve fibres, including unmyelinated ones.

Since unmyelinated nerves are slower (about 7 times slower than myelinated nerves), sexual arousal signals take longer to reach the brain. This slower transmission is suitable for the nature of sexual arousal, which typically builds up gradually rather than occurring instantaneously. The unmyelinated nerves provide the necessary time frame for this gradual increase in sensation, contributing to the overall experience of sexual arousal.

Let's look at how fast our nerves send signals about sexual arousal compared to feeling a cut on your finger.

Signals from myelinated fibres (like feeling a finger cut) reach the brain in about 0.11 seconds. But for unmyelinated fibres (like those used in sensing sexual arousal), it takes longer, around 0.8 seconds — approximately 7 times slower.

This difference is important because sexual arousal involves a complex mix of different nerve systems and pathways, including both the spinal cord and the brain.

(Note: The actual time it takes for these signals to reach the brain can vary from person to person.)

Understanding how unmyelinated nerves contribute to the gradual crescendo of sexual arousal sensations is crucial. It brings us to an important consideration in human relationships, particularly in the context of consent. Just as the body takes time to process these complex sensations through slower nerve transmissions, individuals also need time to understand and interpret their feelings and responses. This aspect of interoception — the internal perception of bodily sensations — plays a vital role in how we make decisions about our bodies and interactions with others. How often do you take a moment to consciously tune in to your physical sensations and emotions throughout the day?

Given the individual variability in how sensations are processed, it's essential to recognize that each person's timeline for understanding these feelings can differ. Therefore, when it comes to giving consent, it's important to allow time for each person to pause and reflect. They should check in with their inner physical sensations, sexual arousal (or its absence), and romantic attraction (or its absence). This process cannot be rushed. Consent given too quickly, without allowing enough time for us to check in with our bodies and emotions, may not be fully informed by our inner experiences and needs. For example, someone might need a few moments to understand their comfort level with a situation. Can you recall a recent situation where you responded quickly to something without checking how you felt physically or emotionally? How might the outcome have been different if you had taken more time to understand your feelings? What strategies or practices could you implement to become more attuned to your bodily sensations and emotions, especially in moments when you need to make decisions?

In summary, just as unmyelinated fibres take longer to transmit signals to the brain than myelinated fibres, we should allow ample time for the personal reflection and self-awareness needed before giving informed consent. This approach ensures that consent is fully informed and respectful of each individual's unique experience and processing time.

# GS.3: Deep Dive - Video: Consent - It's Not as Simple as Tea!

Approximate reading time: 5 minutes

Watch this video: [Consent – Its not as simple as tea! \(4.5 minutes\)](#)



*One or more interactive elements has been excluded from this version of the text. You can view them online here:*

<https://opentextbc.ca/psychologymtdisupplement/?p=233#oembed-1>

“Consent – Its not as simple as tea!” video by Staffordshire University Students’ Union is licensed under the Standard YouTube licence.

# GS.4: Deep Dive - Video: Alok: The Urgent Need for Compassion | The Man Enough Podcast

Approximate reading time: 67 minutes

In this conversation filled with wisdom, historical insight, and radical mercy, ALOK talks openly about their story and their movement to #DeGenderFashion; they also challenge us to get to know who we are outside of who we have been told we should be.

Watch this video: [ALOK: The Urgent Need for Compassion | The Man Enough Podcast \(66.5 minutes\)](#)



*One or more interactive elements has been excluded from this version of the text. You can view them online here:*  
<https://opentextbc.ca/psychologymtdisupplement/?p=235#oembed-1>

“ALOK: The Urgent Need for Compassion | The Man Enough Podcast” video by We Are Man Enough is licensed under the Standard YouTube licence.

# GS.5: Deep Dive - Gender Vocabulary

Approximate reading time: 3 minutes

- **Agender:** when someone does not identify with a gender.
- **Cisgender:** when a person's gender identity matches their assigned sex at birth.
- **FtM:** when a person is assigned a female sex at birth but whose gender identity is boy/man.
- **Gender dysphoria:** when a person is unhappy or dissatisfied with their gender. It can occur in relation to any dimension of gender.
- **Gender expansive:** when people view their gender identity as going beyond the traditional definitions of female or male. They may express or experience their gender in a variety of ways that do not conform to conventional gender norms.
- **Gender expression:** the way a person dresses, behaves, or presents themselves in order to be seen as a particular gender.
- **Gender fluid:** when a person's gender changes over time (e.g., a day, week, month, year or decades); they view gender as dynamic and changing.
- **Gender role:** all the activities, functions and behaviours that are expected of females and males in a gender binary society.
- **Genderqueer:** someone who may not identify with conventional gender identities, roles, expectations or expressions.
- **MtF:** when a person is assigned a male sex at birth but whose gender identity is girl/woman.
- **Non-binary:** when a person's gender identity is not exclusively feminine or masculine.
- **Transgender:** when a person's gender identity differs from their assigned sex at birth.
- **Two-spirit:** a term used by some Indigenous nations to describe a person who embodies characteristics of both female and male genders, or who has a unique gender role in their community. This term, "Two-Spirit", is specific to Indigenous cultures and represents a mix of gender identity, social role, and spiritual identity. Two-Spirit individuals also may hold special spiritual or shamanic duties in their community.

To learn more about gender, visit [Gender Spectrum](#).

Gender Equality refers to the absence of discrimination based on a person's sex. This concept embodies the belief that, regardless of whether a person is male or female, they should have equal opportunities in life, including equal chances to access resources, services and benefits. For example, both men and women should have the same opportunities for education and employment.

Gender Equity, on the other hand, is about fairness and justice in how benefits and responsibilities are shared between men and women. It recognizes that men and women might have different needs and aims to address these differences fairly. For instance, in workplaces, gender equity might involve providing parental leave for both mothers and fathers, acknowledging their distinct roles in childcare.

# GS.6: Deep Dive - Gender-neutral Language Around the World

Approximate reading time: 3 minutes

The evolution of gender-neutral language is a global phenomenon, reshaping how we communicate and acknowledge gender diversity. Miriam Berger's 2019 article in the Washington Post captures this shift, highlighting the innovative ways languages worldwide are adapting to be more inclusive. This section reveals an international movement towards embracing and respecting non-binary identities, showcasing a significant change in both language and societal attitudes. (Study note: The purpose of this section is not to make you memorise this international vocabulary, but rather to appreciate the worldwide effort being made toward creating gender-neutral vocabulary).

- **English:** "They" is now recognized as a singular, gender-neutral pronoun. For example, "They are going to the store" can refer to a single person.
- **Spanish:** Alternative endings like "x", "@", and "e" are used for inclusivity. For instance, "Latinx" includes all genders, as opposed to "Latino" or "Latina". For example, instead of "amigos" (male friends) or "amigas" (female friends), the term "amigues" is used to refer to a group of friends of mixed or unspecified genders.
- **Arabic:** Speakers are challenging gender norms, sometimes defaulting to the female form for inclusivity. For example, using the feminine pronoun for everyone in certain dialects, such as the phrase "mujtama'a al meem" (مجتمع الميم) — or the meem community — a reference to the m-sounding Arabic letter that starts off these terms when translated into Arabic.
- **Hebrew:** New gender-neutral endings for verbs and nouns are emerging, for example, using both male and female cases on nouns and verbs, separated by a period. In Hebrew, the word for "friend" changes based on gender. The masculine form is "חבר" (chaver) and the feminine form is "חברה" (chaverah). To create a gender-neutral or inclusive form, combining both masculine and feminine endings, the word would be adapted as follows: "חברה.ה" (chaver.eh).
- **German:** This language is moving towards gender-neutral nouns in official communication. In German, the traditional words for "friend" are gender-specific: "freund" for a male friend and "freundin" for a female friend. To create a gender-neutral term, one way to make the term "friend" gender-neutral in German could be to use a formulation that focuses on the action or the relationship rather than the gender of the person, e.g., "person die ich kenne" (person I know).
- **French:** Feminists use asterisks for gender-neutral nouns. An example is "ami\*e\*s", combining "ami" (male friend) and "amie" (female friend).
- **Swedish:** "Hen" is a new gender-neutral pronoun. It's used as an alternative to "han" (he) and "hon" (she), like in "Hen går till butiken" (They are going to the store).

This linguistic evolution is not just about words; it's a reflection of societal shifts towards recognizing and respecting the spectrum of gender identities. As language continues to evolve, it becomes a powerful tool in fostering a more inclusive and accepting environment for gender expansive people.

# GS.7: Deep Dive - Diversity of Indigenous Gender Systems: 3, 4, and 5 genders

Approximate reading time: 2 minutes

Many Indigenous nations worldwide recognise and embrace non-binary, gender-expansive systems, including three-, four-, and five-gender systems.

## Three Genders

Where applicable, each nation has their own language to describe, define, and assign special roles to a third gender. For example, let's consider the Cree, Siksika, Ktunaxa, and A:shwi tribes (Matthews-Hartwell, 2014).

- **Cree:** napêw iskwêwisêhot (men who dress like women).
- **Cree:** iskwêw ka napêwayat (women who dress like men).
- **Siksika (Blackfoot):** aakí'iskassi (men who perform roles typically associated with women, such as basket weaving and pottery-making).
- **Ktunaxa (Kootenay):** titqattek (females who take on roles traditionally characterised as masculine, including healing, hunting and warfare).
- **A:shwi (Zuni):** Lhamana (a person who lives as both genders simultaneously).

## Four Genders

In Ojibwe (Chippewa) society, described by Halverson (2013), the four genders are:

- okwe (feminine female),
- agowinini (masculine female),
- agokwe (feminine male), and
- inini (masculine male).

## Five Genders

The Bugis, one of the three main ethnic groups in South Sulawesi, Indonesia, number around 3 million. They are predominantly Muslim, and still practise many pre-Islamic traditions, including the belief in a gender spectrum (Ibrahim, 2019).

In Bugis society, there are five recognized genders:

- makkunrai (cisgender women),

- oroané (cisgender men),
- bissu (often seen as androgynous or intersex, serving as respected shamans or priests),
- calabai (transgender women), and
- calalai (transgender men).

This rich diversity in Bugis society highlights the complexity of gender identities.

# GS.8: Deep Dive - Missing and Murdered Indigenous Women, Girls, and Two-Spirit Peoples

Approximate reading time: 1 minute

Amnesty International and the Native Women's Association of Canada have been bringing attention to murdered Indigenous women, girls, and Two-Spirit people (MMIWG2S) and asking for action from governments and the RCMP. Negative stereotypes of the "squaw" or overly sexualised characters like Pocahontas make it more likely for Indigenous women to face abuse and less likely for them to get help (Anderson, 2000, p. 111). Too often, violence against Indigenous women is ignored or downplayed. Groups like the Native Women's Association and Sisters in Spirit have been fighting for recognition and action for MMIWG2S, which has led to a national inquiry (Indigenous and Northern Affairs Canada, 2016). Including Two-Spirit people in these conversations is a recent, but very important step.

# GS.9: Deep Dive - Gender Discrimination in the Indian Act

Approximate reading time: 1 minute

Lynn Gehl and other scholars have underscored the profound impact of the Indian Act on Indigenous women, establishing “Indianness” through male lineage and contradicting Indigenous kinship systems (Gehl, 2016, p. 64). Even after revisions to the Act in 1985 to bring it into alignment with the Charter of Rights and Freedoms, certain unfair elements lingered (Gehl, 2016, p. 67). For example, children of unstated paternity (the biological fathers were not named) were unfairly presumed to have non-status fathers, preventing Indigenous women from transmitting their Indigenous status to their children. Specifically, if the fathers were known to have Indigenous status the children automatically received Indigenous status. If the mothers had Indigenous status but the fathers status was unknown, the children did not receive Indigenous status. Despite acknowledging the harm inflicted by the Indian Residential School system and the Sixties Scoop, Canada has yet to fully recognise the detrimental effects of such policies on Indigenous women and communities over the past 150 years (Lawrence, 2004).

# GS.10: Deep Dive - Global Gender Diversity

Approximate reading time: 1 minute

Anthropologist Sharyn Graham Davies notes that similar systems exist in Thailand, Malaysia, India, and Bangladesh, illustrating the widespread recognition of gender diversity (Ibrahim, 2019). There are many more examples of gender-expansive societies around the world that view gender beyond the binary system of only cisgendered females and cisgendered males. For example, there are three or more genders in Mexico (Muxe or Muxhe), Thailand (Kathoey), Samoa (Fa'afafine), Hawaii (Mahu), Siberia (Chuckchi), and Italy (Femminiello). In marked contrast with societies that are male-dominant (patriarchal) and practise male-centred religions, there are past and present societies in countries around the world that acknowledge multiple genders. Traditionally, in these societies, people who have gender-expansive roles are celebrated and honoured for their ability to work and live in gender non-binary spaces and realities.

From looking at the ways in which different cultures around the world understand gender in many ways, we now turn to a specific example from Canada. In August 2017, Canada made it possible for people to choose an "X" instead of "male" or "female" on their passports. This change was made to help people who don't fit into the traditional categories of male or female, including non-binary, intersex, and transgender Canadians. This step shows Canada's effort to recognise and respect everyone's gender identity.

# GS.11: Deep Dive - Theories of Gender Socialization

Approximate reading time: 15 minutes

## Social Learning Theory

Do you remember Albert Bandura from the Psychological Science chapter? He's the researcher who had children watch others act aggressively toward a doll (the BoBo doll), and then observed those children's behaviours with the same doll. Children who watched aggressive acts then engaged in aggression with the doll. Essentially, a behaviour was modeled and then they displayed the behaviour.

### Modeling

You walk into a gym for the first time. It is full of equipment you aren't sure how to use. What do you do if you want to know how to use it (let's assume the little instructions with pictures are not posted on the equipment)? The most likely thing, if there is no trainer/employee around to ask, is to watch what someone does on the machine. You watch how they set it up, what they do, etc. You then go to the equipment and do the exact same thing. This is modeling. You modeled the behaviour of the person ahead of you. The same thing can happen with gender; modeling applies to gender socialisation.

We receive much of our information about gender from models in our environment (think about all the factors we just learned about: parents, media, school, peers). If a little girl is playing with a truck and looks over and sees three girls playing with dolls, she may put the truck down and play with the dolls. If a boy sees his dad always doing lawn work, he may immediately try to mimic this. Here is the interesting part: modeling doesn't just stop after the immediate moment is over. The more we see it, the more it becomes a part of our socialisation. We begin to learn rules of how we are to act and what behaviour is accepted and desired by others, what is not, etc. Then we engage in those behaviours, becoming models for others as well! Now, some theories challenge the idea of modeling; however, further research has indicated that modeling is essential in development. Yet, how strictly or specifically the behaviour being modeled adheres to gender norms is also significant (Perry & Bussey, 1979). Other theories include modeling in their explanations but with certain conditions or exceptions. Kohlberg is one of those theorists whom we will learn about later.

# Social Cognitive Theory

Social Cognitive Theory combines elements of social learning and cognitive theories to explain gender development. To explain this, social cognitive theory suggests that one has enactive experiences (this is essentially when a person receives reactions to gendered behaviour), direct instruction (this is when someone is taught knowledge of expected gendered behaviour), and modeling (this is when others show someone gendered behaviour and expectations). For instance, a girl might stop playing with a truck if she's laughed at, learning that this isn't considered typical for her gender. Similarly, children are often explicitly told what behaviours are suitable for boys or girls. This theory highlights that both our biology and our environment, along with their interactions, play a role in how we develop our gender identity throughout our lives. This approach differs significantly from earlier theories, like psychodynamic theories, by considering gender development as a lifelong process influenced by a combination of social and biological factors.

## Cognitive Theories

### Kohlberg's Cognitive Developmental Theory

Lawrence Kohlberg originated the first cognitive developmental theory. He theorised that children actively seek out information about their environment. This is important because it places children as active agents in their socialisation. According to cognitive developmental theory, a major component of gender socialization occurs when children recognise that gender is constant and does not change; this is referred to as "gender constancy". Kohlberg indicated that children choose various behaviours that align with their gender and match cultural stereotypes and expectations. Gender constancy includes multiple parts. A child: (1) must be able to label their own identity, which is known as gender identity; (2) recognise that gender remains constant over time, which is gender stability; and (3) apply these skills across settings, which is gender consistency. Gender identity appears to be established by around age three and gender constancy appears to be established somewhere between the ages of five and seven. Although Kohlberg's theory captures important aspects, it fails to recognize things such as the ways in which gender identity regulates gender conduct and the extent to which one adheres to gender roles throughout their life (Bussey, 2014).

Although Kohlberg indicated that modeling was important and relevant, he theorised that it was only relevant once gender constancy was achieved. He theorised that constancy happens first, which then allows for modeling to occur later (although the opposite is considered true in social cognitive theory). The problem with his theory is that children begin to recognise gender and model gender behaviours before they have cognitive capacities for gender constancy (remember what we learned about how infants show gender-based knowledge?!).

### Gender Schema Theory

Gender schema theory combines ideas from cognitive psychology and social learning. It suggests that we all have mental scripts, called schemas, that guide our understanding of gender. These schemas act as mental shortcuts, guiding our gender-based behaviour.

Children develop these gender schemas based on what they learn and observe around them. For example, a child might learn that boys play with trucks and girls play with dolls. These ideas then influence their choices and actions.

Sandra Bem, a prominent researcher in this field, described gender schemas as including attributes like behaviours, personality traits, and appearance that are typically associated with females or males. These schemas often rely on stereotypes, leading us to accept behaviours that match these stereotypes and question those that don't.

- **Superordinate Schemas:** These are broad, general ideas about what males and females are typically like. For example, a superordinate schema might be the belief that males are strong and enjoy sports or females are nurturing and good at caregiving. This type of schema shapes our expectations about gender roles in society.
- **Own-Sex Schemas:** These are more personal and relate to how individuals see themselves in relation to their gender. For instance, a boy might have an own-sex schema that includes, "I am a boy, so I should like playing football and be tough". This schema influences how he perceives himself and his role within the gender he identifies with.

Think of gender schemas as a set of rules that make it quicker for us to decide how to act in gender-related situations. For instance, if a boy believes only boys should play with trucks, he'll likely choose to play with a truck when given one.

Children develop these schemas in stages. Initially, they strictly categorize things as "for boys" or "for girls." Around ages five to seven, they start to see these categories as more rigid. As they grow older, they begin to understand that these rules aren't always fixed and can be more flexible.

As society increasingly acknowledges and accepts non-binary genders, new stereotypes and cognitive shortcuts about non-binary behaviours may emerge. These could be assumptions about non-binary appearance, personality traits, interests, or behaviours. For instance, there might be an expectation that non-binary individuals should look androgynous or have specific interests that differ from traditional gender norms.

It's crucial to remember, however, that while stereotypes and cognitive shortcuts simplify complex social information, they can often be too simplistic and not reflective of individual diversity. They can lead to misunderstandings or biases against people who don't conform to these generalised expectations. As society's understanding of gender continues to evolve, it's crucial to be aware of these tendencies and strive for a more individualised understanding of each person's unique identity.

In summary, gender schema theory helps us to understand how children learn and apply societal norms about gender, and influences their behaviour from a young age.

## Genetics

We can be genetically predisposed to many things, such as mental illness, cancer, or heart conditions. It is theorised that we also are predisposed to gendered behaviour and identification. This theory is most obvious when individuals are gender non-conforming or transgender (predisposed to a gender that does not align with biological sex).

Research has actually revealed initial evidence that gender involves some degree of genetic predisposition.

Specifically, twin studies have shown that nonconforming gender traits are linked to genetic gender predispositions. More specifically, when one twin is transgender, it is more likely that the other twin is transgender as well. This phenomenon is not evidenced in fraternal twins or non-twin siblings to the same degree (Bevan, 2017).

Genetic gender predisposition theorists further reference case studies in which males with damaged genitalia

undergo plastic surgery as infants to modify their genitalia to be more female aligned. These infants are then raised as girls, but often seek out transitioning back to being boys or become gender-nonconforming (Bevan, 2017).

Table SUP GS.1 How well does each theory explain gender socialization: Pros and Cons

Theory	Pros	Cons
Social Learning Theory	Explains how children learn gender roles by observing and imitating others. Accounts for the influence of parents, peers, and media on gender behaviour.	Does not explain innate preferences or behaviours not directly observed. May not account for internal cognitive processes influencing gender identity.
Social Cognitive Theory	Expands on social learning by including the effects of enactive experiences and direct instruction. Considers the role of feedback in shaping gender understanding.	Less emphasis on biological factors in gender identity development. May not fully explain gender behaviours in absence of social feedback.
Kohlberg's Cognitive Developmental Theory	Highlights the active role of children in developing gender identity. Emphasises the concept of gender constancy in gender role development.	Children begin to recognise gender and model gender behaviours before they have cognitive capacities for gender constancy, contrary to Kohlberg's theory. Fails to recognise how gender identity regulates gender conduct and adherence to gender roles through life.
Gender Schema Theory	Focuses on how children form cognitive frameworks (schemas) about gender. Explains how stereotypes influence gender behaviour.	May oversimplify the complexity of gender identity development. Does not adequately explain non-conforming gender behaviours.
Genetic-based Theories	Suggests a genetic component in gender identity, especially in transgender individuals. Supports the idea of inherent gender predispositions.	Cannot fully explain the wide range of gender identities and expressions. Genetic influence on gender behaviour is complex and not entirely understood.

#### Study Hints

What's the difference between social learning theory and social cognitive theory? They sound so similar. Here's a mnemonic to help you remember: "Learning Observes, Cognitive Connects."

- "L" = "Looking" — Social Learning Theory. Think of the "L" in Learning as "Looking"; it emphasises learning gender behaviours by observing and imitating others, like watching someone in the BoBo doll experiment.
- "C" = Connecting — Social Cognitive Theory. Think of the "C" in Cognitive of Social Cognitive Theory as "Connecting"; this goes beyond mere observation, focusing on how we process and internalise these observations through feedback, thinking, and direct instruction.

This way, you can easily recall that Social Learning is about observing behaviours, while Social Cognitive is about connecting these behaviours with our understanding and internal thought processes.

# Case Study – Tad’s Journey in Gender Socialization

## Background

Tad, a 10-year-old child, lives in a culturally diverse urban neighborhood. Tad’s parents encourage exploration and self-expression, which has led Tad to show interest in activities traditionally not associated with their biological sex.

## Observations

### At home

Tad’s parents provide a variety of toys and experiences, from sports equipment to cooking sets, without adhering to gender stereotypes.

### At school

Tad plays football with boys and also participates in the drama club with girls.

## Peer Interactions

Tad has a mixed group of friends and engages in diverse interests, from video games to fashion.

## Media Influence

Tad enjoys TV shows and movies featuring non-traditional gender roles.

## Application of Theories

### Social Learning Theory

Tad learns gender roles through observation and imitation. Tad’s interest in both football and drama reflects the diverse influences in their environment. For example, Tad might have seen a male family member cooking or a female teacher who is passionate about sports, leading Tad to feel comfortable engaging in these activities.

## Social Cognitive Theory

Tad's experiences are shaped by reactions from others (enactive experiences), such as praise from teachers for playing football, which challenges traditional gender norms. Tad also learns through direct instruction, as their parents avoid gendered language and encourage a variety of interests. Tad models behavior after an older sibling who enjoys both basketball and ballet, showing a mix of traditionally masculine and feminine activities.

## Kohlberg's Cognitive Developmental Theory

Tad recognizes their gender as a constant trait but chooses activities based on personal interests, not gender norms. This indicates that Tad has reached a level of gender constancy but does not conform strictly to traditional gender roles.

## Gender Schema Theory

Tad has developed a personal gender schema that is flexible and does not strictly follow traditional norms. This schema influences Tad's choices, allowing them to enjoy a range of activities without being confined by gender stereotypes.

## Genetic-based Theories

While these theories might suggest some of Tad's interests are innate, they cannot fully explain Tad's wide range of interests that cross traditional gender boundaries.

### Discussion Points for Students

1. How do Tad's experiences align with or challenge each gender socialisation theory?
2. Can any single theory fully explain Tad's gender expression and socialisation? Discuss the limitations.
3. Consider the influence of environment versus biology in Tad's development.
4. Reflect on how Tad's journey might differ in a less supportive or more traditional environment.

# GS.12: Deep Dive - Ethics and Gender Identity Research: David Reimer Mistreated by John Money

Approximate reading time: 16 minutes

Content Disclosure: Please be aware that this section contains several sensitive and potentially distressing topics. It begins with a detailed description of a medical procedure, specifically a circumcision, that goes tragically wrong, resulting in severe and irreversible injury to an infant. The story delves deeply into issues of gender identity, highlighting the psychological challenges and distress faced by an individual who is raised in a gender role that does not align with their biological sex. This narrative also touches on controversial medical practices and theories regarding gender identity, raising potential ethical concerns. Furthermore, the story addresses serious mental health issues, including threats of suicide and ultimately the suicide of David Reimer. This content, while educational and informative about a significant historical case, may be particularly challenging for readers with personal experiences or sensitivities related to these topics. We advise reader discretion.

In August of 1965, Janet and Ronald Reimer of Winnipeg, Canada, welcomed the birth of their twin sons, Bruce and Brian. Within a few months, the twins were experiencing urinary problems; doctors recommended the problems could be alleviated by having the boys circumcised. A malfunction of the medical equipment used to perform the circumcision resulted in Bruce's penis being irreparably damaged. Distraught, Janet and Ronald looked to expert advice on what to do with their baby boy. By happenstance, the couple became aware of Dr. John Money at Johns Hopkins University and his theory of psychosexual neutrality (Colapinto, 2000).

Dr. Money had spent a considerable amount of time researching transgender individuals and individuals born with ambiguous genitalia. As a result of this work, he developed a theory of psychosexual neutrality. His theory asserted that we are essentially neutral at birth with regard to our gender identity and that we don't assume a concrete gender identity until we begin to master language. Furthermore, Dr. Money believed that the way in which we are socialized in early life is ultimately much more important than our biology in determining our gender identity (Money, 1962).

Dr. Money encouraged Janet and Ronald to bring the twins to Johns Hopkins University, and he convinced them that they should raise Bruce as a girl. Left with few other options at the time, Janet and Ronald agreed to have Bruce's testicles removed and to raise him as a girl. When they returned home to Canada, they brought with them Brian and his "sister," Brenda, along with specific instructions to never reveal to Brenda that she had been born a boy (Colapinto, 2000).

Early on, Dr. Money shared with the scientific community the great success of this natural experiment that seemed to fully support his theory of psychosexual neutrality (Money, 1975). Indeed, in early interviews with the children it appeared that Brenda was a typical little girl who liked to play with "girly" toys and do "girly" things.

However, Dr. Money was less than forthcoming with information that seemed to argue against the success of the case. In reality, Brenda's parents were constantly concerned that their little girl wasn't really behaving as most girls

did, and by the time Brenda was nearing adolescence, it was painfully obvious to the family that she was really having a hard time identifying as a female. In addition, Brenda was becoming increasingly reluctant to continue her visits with Dr. Money to the point that she threatened suicide if her parents made her go back to see him again.

At that point, Janet and Ronald disclosed the true nature of Brenda's early childhood to their daughter. While initially shocked, Brenda reported that things made sense to her now, and ultimately, by the time she was an adolescent, Brenda had decided to identify as a male. Thus, she became David Reimer.

David was quite comfortable in his masculine role. He made new friends and began to think about his future. Although his castration had left him infertile, he still wanted to be a father. In 1990, David married a single mother and loved his new role as a husband and father. In 1997, David was made aware that Dr. Money was continuing to publicize his case as a success supporting his theory of psychosexual neutrality. This prompted David and his brother to go public with their experiences in an attempt to discredit the doctor's publications. While this revelation created a firestorm in the scientific community for Dr. Money, it also triggered a series of unfortunate events that ultimately led to David committing suicide in 2004 (O'Connell, 2004).

This sad story speaks to the complexities involved in gender identity. While the Reimer case had earlier been paraded as a hallmark of how socialization trumped biology in terms of gender identity, the truth of the story made the scientific and medical communities more cautious in dealing with cases that involve intersex children and how to deal with their unique circumstances. In fact, stories like this one have prompted measures to prevent unnecessary harm and suffering to children who might have issues with gender identity. For example, in 2013, a law took effect in Germany allowing parents of intersex children to classify their children as indeterminate so that children can self-assign the appropriate gender once they have fully developed their own gender identities (Paramaguru, 2013).

Watch this video: [John Money: The Origins of Gender Identity \(4.5 minutes\)](#)



*One or more interactive elements has been excluded from this version of the text. You can view them online here:*  
<https://opentextbc.ca/psychologymtdisupplement/?p=251#oembed-1>

"John Money: The Origins of Gender Identity" video by Tomorrow's World Viewpoint is licensed under the Standard YouTube licence.

Watch this video: [Why the Boy Who Was Raised as a Girl Forgave His Mother | The Oprah Winfrey Show | OWN \(4 minutes\)](#)



*One or more interactive elements has been excluded from this version of the text. You can view them online here:*  
<https://opentextbc.ca/psychologymtdisupplement/?p=251#oembed-2>

"Why the Boy Who Was Raised as a Girl Forgave His Mother | The Oprah Winfrey Show | OWN" video by OWN is licensed under the Standard YouTube licence.

# GS.13: Deep Dive - 2SLGBTQIA+ Legal precedent

Approximate reading time: 1 minute

In Canada, a notable case that reflects the complexities and challenges faced by the 2SLGBTQIA+ community is that of Delwin Vriend. In 1998, the Supreme Court of Canada ruled in "Vriend v. Alberta" that the exclusion of sexual orientation from the Alberta Individual Rights Protection Act was unconstitutional. This landmark case arose after Vriend, a teacher in Alberta, was fired for being gay. His case highlighted the need for explicit protection of 2SLGBTQIA+ rights in Canadian law. The ruling was a significant step towards ensuring equality and non-discrimination for the 2SLGBTQIA+ community in Canada. It set a precedent for including sexual orientation as a protected ground against discrimination, influencing subsequent human rights policies and legislation across the country.

This example illustrates the ongoing struggle for 2SLGBTQIA+ rights and the impact of legal advocacy in advancing these rights in Canada.

# GS.14: Deep Dive - Coming Out/Inviting In

Approximate reading time: 3 minutes

Is it a good idea to share your 2SLGBTQIA+ identity? Many 2SLGBTQIA+ individuals choose to keep their gender identity and sexual orientation private, either all the time or occasionally. This is sometimes called “going stealth”. This choice might be due to worries about how others will react. Sharing your identity can lead to more risks like facing harassment, discrimination or violence. It might also mean losing relationships or housing. On the other hand, some people don’t share because they feel this part of their identity is private. All these reasons are valid. It’s your right to decide if you want to share this part of yourself.

For many, the positive aspects of sharing outweigh the negatives. Benefits of coming out include:

- Having closer, more honest relationships.
- Gaining self-esteem by being loved for your true self.
- Less stress from hiding who you are.
- Connecting with other 2SLGBTQIA+ people.
- You can also help others by:
  - Breaking down myths and stereotypes about 2SLGBTQIA+ people.
  - Making it easier for future 2SLGBTQIA+ generations.
  - Becoming a role model.

Remember, you can choose who to tell. It might be useful to think about the good and bad points of coming out in different areas of your life (like with family, friends, work or school) or to specific people. Then, decide how much risk you’re willing to take in each situation.

## Who to Tell First

Often, people start by telling those who are most likely to accept their 2SLGBTQIA+ identity. This way, they have support if they tell others who might react negatively.

To test whether or not someone will be accepting, you might bring up a 2SLGBTQIA+ topic or person in the media and see how they respond.

You might also choose based on whether you trust them to keep your information private.

## Ways to Come Out

There are many ways to come out. You can do it face-to-face, by phone, or in writing (e.g., an email or letter). Some people tell their closest ones in person and others in writing. Another option is to write a letter and read it to them in person.

## Advantages of Coming Out in Writing

- You can think carefully about what to say.
- You can get feedback from others on what you've written.
- You can say your piece before answering questions.
- You don't have to hear their immediate reaction (which can be intense but often softens later).
- They can read it multiple times.

# GS.15: Deep Dive - Trailblazers and Change-Makers: Celebrating 10 Canadian 2SLGBTQIA+ Pioneers and Activists

Approximate reading time: 6 minutes

## George Hislop (1970s)

A pioneering figure in Canada's 2SLGBTQIA+ rights movement, George Hislop emerged as a prominent activist in the 1970s. He made history as one of the first openly gay candidates for political office in Canada, breaking barriers in a time when homosexuality was still largely stigmatised. Hislop's activism extended beyond politics; he was instrumental in founding several 2SLGBTQIA+ organizations and played a key role in the early Toronto Pride events, significantly contributing to the growth of the 2SLGBTQIA+ rights movement in Canada.

## Svend Robinson (1988)

Svend Robinson is a notable figure in Canadian politics, remembered for his groundbreaking decision to come out as gay in 1988 while serving as a Member of Parliament. This courageous act marked him as the first openly gay MP in the Canadian House of Commons. Throughout his political career, Robinson was a staunch advocate for 2SLGBTQIA+ rights, environmental issues, and social justice, influencing significant legislative changes and inspiring a generation of 2SLGBTQIA+ political activism.

## k.d. lang (1992)

The Grammy Award-winning artist, k.d. lang, publicly came out as a lesbian in a 1992 article in "The Advocate". Her coming out was a significant moment in the entertainment industry, challenging the norms and perceptions of sexuality in the music world. Lang's successful career, coupled with her openness about her sexuality, has made her a prominent figure in the 2SLGBTQIA+ community, inspiring many with her talent and advocacy for 2SLGBTQIA+ rights.

## Michelle Douglas (1992)

In 1992, Michelle Douglas made a landmark legal challenge against the Canadian military's discriminatory policies, leading to the end of the ban on 2SLGBTQIA+ individuals serving in the Canadian Armed Forces. Discharged because of her sexual orientation, Douglas's case set a precedent for 2SLGBTQIA+ rights within the military. Her activism did

not stop there; she has since been a vocal advocate for 2SLGBTQIA+ rights, contributing significantly to the advancement of equality and justice in Canada.

## **Mark Tewksbury (1998)**

Olympic gold medalist swimmer Mark Tewksbury came out as gay in 1998, becoming a prominent gay sports figure. His coming out was a significant moment in the sports world, where 2SLGBTQIA+ visibility was limited. Tewksbury has been an advocate for 2SLGBTQIA+ rights and inclusivity in sports, using his platform to challenge stereotypes and promote diversity and acceptance in the athletic community.

## **Janine Fuller (Active in the 2000s)**

Janine Fuller is a Canadian author, activist, and bookstore manager known for her activism against censorship and for 2SLGBTQIA+ rights. Her work, particularly in the realm of literature and freedom of expression, has been influential in the fight for 2SLGBTQIA+ visibility and rights in Canada. Fuller's leadership in challenging censorship laws and her advocacy for 2SLGBTQIA+ literature have made her a respected figure in the community.

## **Brent Hawkes (Early 2000s)**

Reverend Brent Hawkes gained national attention in the early 2000s when he performed the first legal same-sex marriage ceremonies in Canada. As a senior pastor of the Metropolitan Community Church of Toronto, Hawkes's advocacy work was instrumental in the eventual legalisation of same-sex marriage across the country. His dedication to 2SLGBTQIA+ rights and marriage equality has made him a revered figure in the fight for equal rights.

## **Maura Lawless (Active in the 2000s)**

Maura Lawless has been a significant figure in the Canadian 2SLGBTQIA+ community. She is particularly noted for her work with The 519, a Toronto-based community center offering programs and support for the 2SLGBTQIA+ community. Under her leadership, The 519 greatly expanded its services, becoming a pivotal resource for 2SLGBTQIA+ individuals in Toronto, particularly for those facing homelessness, health issues, and discrimination.

## **Jamie Lee Hamilton (1990s-2000s)**

Jamie Lee Hamilton is recognized as one of Canada's first out transgender activists. Her advocacy work, particularly in Vancouver, began in the 1990s and continued into the 2000s. Hamilton focused on issues such as sex workers' rights, police accountability, and health care for transgender individuals. Her trailblazing efforts for transgender rights and visibility have made her a respected and influential figure in the 2SLGBTQIA+ community.

## Sara Davis Buechner (Active since the 2000s)

Renowned Canadian classical pianist Sara Davis Buechner came out as bisexual and transgender in the early 2000s. Celebrated for her extraordinary musical talent, Buechner is also known for her advocacy for 2SLGBTQIA+ rights, particularly in the realm of arts and culture. Her journey and outspoken advocacy have been an inspiration to many in the 2SLGBTQIA+ community, and she continues to be a vocal advocate for transgender and bisexual visibility and rights.

## Vriend v. Alberta (1998)

This is a seminal case in Canadian constitutional law, in which the Supreme Court of Canada ruled that the exclusion of sexual orientation from the Alberta Individual's Rights Protection Act was unconstitutional. This decision stemmed from the case of Delwin Vriend, a teacher who was fired for being gay, which highlighted the Act's lack of protection against discrimination based on sexual orientation. The Court held that this exclusion violated the equality rights guaranteed under Section 15 of the Canadian Charter of Rights and Freedoms. As a result, sexual orientation was read into the Act as a prohibited ground of discrimination, marking a significant step in the advancement of LGBTQ rights in Canada.

Each of these individuals has made significant contributions to advancing 2SLGBTQIA+ rights and visibility in Canada, paving the way for future generations.

# GS.16: Deep Dive - “Should I Come Out?”

Approximate reading time: 10 minutes

This section delves into two critical concepts in 2SLGBTQIA+ psychology: “coming out” and “inviting in”. “Coming out” refers to the act of 2SLGBTQIA+ individuals disclosing their sexual orientation or gender identity, a significant step towards personal authenticity and societal change. “Inviting in”, on the other hand, focuses on creating supportive spaces for these individuals. Together, these concepts shape the personal journeys of 2SLGBTQIA+ individuals and influence broader social attitudes and policies.

## Coming Out

“Coming out” refers to the process where 2SLGBTQIA+ individuals disclose their sexual orientation or gender identity. It’s like sharing a personal truth about oneself, typically related to being lesbian, gay, bisexual, transgender or queer (LGBTQ). This can involve telling friends, family, colleagues or the broader public about one’s true identity. Historically, as advocated by the gay liberation movement in the 1970s, coming out has been viewed as a vital step for political change and personal fulfillment (Shiltz, 1982). See the 10 famous 2SLGBTQIA+ Canadians featured in Supplement GS.15. Each of these pioneers and activists demonstrates that social change can happen when 2SLGBTQIA+ individuals reveal their identities to family, friends, colleagues or fans. These pioneers’ goal was to dismantle myths and foster acceptance of all sexual orientations.

[Supplement GS.15: Deep Dive – Trailblazers and Change-Makers: Celebrating 10 Canadian 2SLGBTQIA+ Pioneers and Activists \[New Tab\]](#)

Research supports the benefits of coming out, including improved well-being and social support (Stirratt, Meyer, Ouellette, Gara, 2007; Cass, 1984; Troiden, 1989; Vo, 2021; Kinitz et al., 2021; Wilson, Weiss, & Shook, 2020). However, coming out is not always safe or feasible for everyone. Risks such as physical harm, emotional trauma, or loss of housing must be considered. The decision to come out is deeply personal and should be respected. Allies should never disclose someone’s sexual orientation or identity without explicit permission, as this can cause harm (Lamothe, 2023; Prada et al., 2023).

## Inviting In

“Inviting in” is a slightly different approach to coming out. Instead of making a broad announcement, “inviting in” is about sharing one’s 2SLGBTQIA+ identity with specific individuals in a more intimate, controlled and personal setting. It’s like selectively opening up to certain people whom one trusts and feels comfortable with.

The purpose of “inviting in” is to create a safe and supportive environment for the person revealing their identity. It allows them to have more control over the people who know about their sexual orientation or gender identity and

how the information is shared and discussed. This method can be particularly helpful in situations where someone might feel unsure about the way in which their news will be received, or wants to ensure they have a supportive conversation.

The presence of 2SLGBTQIA+ role models in media also plays a significant role in shaping societal attitudes (GLAAD, 2016; Craig, McInroy, McCready, Alaggia, 2015; Forenza, 2017), increasing visibility, understanding and acceptance. While increased visibility has its risks, it is generally seen as a positive strategy for social change (Levina, Waldo, Fitzgerald, 2000).

In conclusion, the practices of “coming out” and “inviting in” are more than just personal experiences; they are powerful mechanisms that drive social change and foster inclusivity. Understanding and respecting these concepts is vital for anyone committed to supporting the 2SLGBTQIA+ community and advocating for a more accepting society.

Our discussion of sexual orientation, along with the concepts of “coming out” and “inviting in”, helps us to begin to understand important issues in the 2SLGBTQIA+ community. The choice to share one’s sexual orientation — i.e., “come out” or “invite in” — is deeply personal and can significantly impact one’s life. It’s essential to approach these decisions with care, considering both the potential risks and the empowering benefits. Ultimately, fostering a society that respects and values every individual’s sexual orientation is crucial for building a more inclusive and equitable world. The stories of Canadian 2SLGBTQIA+ pioneers and the legal strides made, like in the case of “Vriend v. Alberta”, serve as powerful reminders of the progress achieved and the work that still lies ahead in the pursuit of equality and acceptance for all.

Watch this video: [Why Some Black LGBTQIA+ Folks Are Done ‘Coming Out’ \(4.5 minutes\)](#)



*One or more interactive elements has been excluded from this version of the text. You can view them online here:*  
<https://opentextbc.ca/psychologymtdisupplement/?p=259#oembed-1>

“Why Some Black LGBTQIA+ Folks Are Done ‘Coming Out’” video by The Root is licensed under the Standard YouTube licence.

# GS.17: Deep Dive - Understanding Your Values and Honouring Others' Values: A Reflection Worksheet

Approximate reading time: 4 minutes

This activity is designed to help you explore your own values and beliefs around gender and sexuality, and to thoughtfully compare them with an “Other Perspective”. Your reflections during this process will be entirely private, allowing you the freedom to be open and honest with yourself. You will find a values worksheet for this activity in Appendix 1.

## Your Task is to Reflect Privately, Compare Thoughtfully

### Part 1: Your Personal Reflections

Begin by examining your own thoughts and feelings. You'll consider each item of the Circles of Sexuality model, reflecting on your beliefs, experiences, and emotions. How do you view aspects like sensuality, intimacy, and sexual identity? Remember, these reflections are for your eyes only, so feel free to express yourself fully and honestly. A worksheet (Appendix 1) will guide you, offering prompts to help you navigate your inner landscape.

### Part 2: Embracing Another Perspective

Now, let's broaden your horizon. Choose an “Other Perspective” — it could be a parent, friend, romantic partner, or a cultural or religious value system. Reflect on the same Circles of Sexuality items from this new viewpoint. Again, these reflections are private.

### Part 3: The Art of Comparison

With your personal and “Other Perspective” reflections complete, it's time for comparison. What similarities and differences do you notice between your views and the other perspective? This comparison might bring up various thoughts and feelings. It's an opportunity to understand where your views align or diverge and to explore the reasons behind these differences. For items where your values are significantly different from the “Other Perspective”, how would you feel about working to validate and support the Other's values?

## Part 4: Sharing Insights

In a group setting, if you feel comfortable, share your insights about the comparison process. There is no need to share about your specific values unless you choose to. What did you learn about your values as they came in contact with the Other's values? Would it be difficult or easy for you to work with people who have values different from yours? Discuss your general insights or feelings you experienced during this reflective activity.

### Guidelines for a Meaningful Experience

- **Privacy:** Your individual reflections are completely private. Feel free to express yourself honestly and openly.
- **Respect and Confidentiality:** If you choose to share in group discussions, respect each other's views and maintain confidentiality.
- **Open Engagement:** Be honest in your reflections and open to understanding different perspectives.
- **Deep Reflection:** Take your time to think about each aspect and how it relates to you and the chosen "Other Perspective".

### A Note for Facilitators

Ensure that participants understand the importance of privacy and confidentiality. Create a safe, non-judgmental environment for those who choose to share. Encourage participants to consider not just intellectual thoughts but also emotional and other considerations.

Now that you have practised becoming aware of your values and the values of others, let's look at a case study to explain how the Circles of Sexuality applies to an individual's life. Let's consider Jay's story. Jay, a 30-year-old Black gay man, shows us how the Circles of Sexuality play out in his life. Jay's experiences give us a clear view of how each circle works, how they can influence each other, and how they all come together to shape a deeper understanding of Jay's sexuality.

# GS.18: Case Study - Jay's Experience with the Circles of Sexuality

Approximate reading time: 3 minutes

Jay, a 30-year-old Black gay man, navigates the Circles of Sexuality with rich experiences that go beyond his racial and sexual identity.

- **Sensuality Circle:** Jay takes pride in his body image, embracing his Black heritage and gay identity. He also finds joy in a variety of sensory experiences, such as his passion for culinary arts and his love for nature hikes, which allow him to connect deeply with his physical senses. His comfort with his body's sexual responses is intertwined with these diverse interests, contributing to a well-rounded sense of self.
- **Intimacy Circle:** Jay's relationship with his partner, Liam, is marked by deep emotional and intellectual intimacy. They share a love for literature and often engage in discussions about books that touch on social justice themes, enriching their connection. Their bond is strengthened by shared activities like volunteering at local community centers, reflecting their commitment to making a positive impact.
- **Sexual Identity Circle:** Jay's journey in understanding his sexual identity is an important aspect of his life. He actively participates in LGBTQ+ community events, but his interests also include advocating for mental health awareness, reflecting his background in psychology. This blend of activism and professional interest shapes his approach to gender expression and sexual orientation.
- **Sexual Health and Reproduction Circle:** Health-conscious, Jay is diligent about regular check-ups and is an advocate for holistic health, often exploring the intersection of physical well-being and mental health. He and Liam have thoughtful conversations about their future, considering various family planning options, including adoption.
- **Sexualisation Circle:** Aware of the stereotypes surrounding Black and gay men, Jay challenges these perceptions through his work as a freelance writer, where he explores themes of identity and representation. He also actively participates in workshops on healthy relationships and consent, applying his insights to foster inclusive and respectful environments.
- **Values Circle:** Jay's values are shaped by a blend of his cultural background, personal ethics, and experiences. He values honesty, equality, and respect in all aspects of life. His approach to relationships and social interactions is guided by these principles, along with a strong sense of individuality and a commitment to personal growth.

In Jay's life, the Circles of Sexuality are interwoven with his multifaceted identity and interests. His experiences in one circle often enrich his understanding and engagement in others. For instance, his passion for social justice (Sexual Identity Circle) and his advocacy work (Sexualization Circle) are underpinned by his core values (Values Circle).

This case study illustrates how the Circles of Sexuality model can be applied to understand the complex and dynamic nature of an individual's sexual experience, shaped by a variety of personal and social factors.

# GS.19: Deep Dive - The Terms “Heterosexual” and “Homosexual” are Imperfect Language with Dubious, Unscientific Origins

Approximate reading time: 9 minutes

In the late 19th century, the terms “heterosexual” and “homosexual” were introduced to describe people’s sexual orientations. These words were not based on scientific research, but were created to categorize people into distinct groups. The inventor of these terms, Karl Maria Kertbeny, aimed to advocate for the decriminalisation of homosexuality by creating a language that could describe different sexual attractions (Ambrosino, 2017).

Initially, “heterosexual” had a negative connotation. For example, the 1901 Dorland’s Medical Dictionary defined heterosexuality as an “abnormal or perverted appetite toward the opposite sex” (Ambrosino, 2017). It wasn’t until 1934 that the meaning of heterosexuality shifted to what we recognise today: a natural attraction to the opposite sex. This change reflects how societal attitudes towards sexuality can evolve over time.

The shift in the understanding of these terms highlights the power of language in shaping societal norms and attitudes. Richard von Krafft-Ebing, a psychiatrist, played a significant role in changing the perception of heterosexuality. In his work, *Psychopathia Sexualis*, Krafft-Ebing used “heterosexual” to describe the “normal” sexual desire, contrasting it with what he considered sexual “perversions” (Ambrosino, 2017). This marked a significant shift in how sexuality was viewed, moving away from a focus on procreation to recognising sexual desire as a natural part of human experience.

The evolution of these terms shows that our understanding of sexuality is influenced by cultural, historical and social factors. It challenges the notion that sexual orientations are innate, unchanging traits. Instead, it suggests that the way we categorise and understand sexual behaviour is constructed by society and can change over time.

When we use the terms “homosexual” and “heterosexual”, we do so knowing we are using imperfect language with dubious, unscientific origins that are rarely used by the people they are meant to describe. These terms are “dead things” that walk among us negatively, influencing our efforts at scientific clarity. Nowadays, some people prefer to use “queer” and “straight” instead, but not everyone likes or agrees with these words.

This history is important to consider in discussions about sexuality today. It reminds us that the words we use to describe sexual orientation are not neutral, but carry the weight of historical attitudes and beliefs. Recognising the constructed nature of these terms can help us approach discussions about sexuality with more openness and awareness of their complexity.

Watch this video: [Invention of Heterosexuality | Queer History \(6 minutes\)](#)



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<https://opentextbc.ca/psychologymtdisupplement/?p=265#oembed-1>

“Invention of Heterosexuality | Queer History” video by Rogan Shannon is licensed under the Standard YouTube licence.

# GS.20: Deep Dive - Freud's Theory of Sexual Development

Approximate reading time: 3 minutes

Using case studies, the Austrian neurologist Sigmund Freud (1856-1939) is credited with being the first scientist to link sex to healthy development and to recognise humans as being sexual throughout their lifespans, including childhood (Freud, 1905). Freud (1923) argued that people progress through five stages of psychosexual development: oral, anal, phallic, latent and genital. According to Freud, each of these stages could be passed through in a healthy or unhealthy manner. People who progress in an unhealthy manner might develop psychological problems. Here is a brief explanation of each of Freud's stages:

- **Oral Stage (0-1 year):** This is the first stage, where a baby's pleasure centres on the mouth. Activities like sucking and biting are important. If issues arise during this stage, it might lead to problems like overeating or smoking in adulthood.
- **Anal Stage (1-3 years):** In this stage, the focus is on controlling bowel and bladder movements. The key challenge is toilet training. Problems in this stage can lead to neatness or messiness in later life.
- **Phallic Stage (3-6 years):** During this stage, the child's attention is on the genitals. Freud believed children develop a deep attraction to the opposite-sex parent and jealousy towards the same-sex parent. Issues here can lead to confusion about sexual identity or guilt about sex.
- **Latent Stage (6 years to puberty):** In this period, sexual urges are repressed and children focus on school, friendships, and hobbies. Freud thought that successful navigation of this stage leads to well-rounded, socially competent adults.
- **Genital Stage (puberty onwards):** This final stage is marked by a renewed sexual interest and the establishment of mature sexual relationships. Problems in this stage can lead to difficulties in forming healthy romantic relationships.

Freud believed that difficulties in any of these stages could lead to certain psychological issues in adulthood. However, it's important to note that Freud's theories are considered controversial because they are not supported by research evidence. As a result Freud's theories are not widely accepted in modern psychology.

# GS.21: Deep Dive - Precocious and Delayed Puberty

Approximate reading time: 3 minutes

If a girl begins puberty before age 8, or a boy before age 9, they are considered to have precocious (early) puberty (Klein, Emerick, Sylvester, & Vogt, 2017). Children with early puberty may face psychological and social problems. They feel different from their peers (Klein et al., 2017). Boys who develop earlier are less likely to experience negative consequences like bullying. Early developers are often perceived as more mature and older than they are. Thus, girls may face greater levels of sexualisation earlier. Boys may experience reduced levels of bullying due to their size and increased body mass.

Delayed puberty is a lack of breast growth by age 13 in girls or the absence of a period (menarche) by age 16 (Tang et al., 2020). For boys, it is when testicular enlargement has not occurred by age 14 (Tang et al., 2020). Girls and boys with delayed puberty may face bullying from peers. They appear smaller and more child-like. Boys, in particular, may face heightened levels of bullying and negative self-esteem consequences. Beyond the standard timelines of puberty, specific considerations arise for transgender individuals, particularly in the context of hormone blockers and their role in puberty.

## Hormone Blockers for Transgender Individuals

The use of hormone blockers in transgender youth is a topic of debate. Some argue that they should be allowed to take hormone blockers prior to and during puberty, with the goal of preventing unwanted changes in order to align puberty with their gender identity. Physical features are heavily correlated with gender in our society. For example, testosterone deepens the voice and redistributes body mass. This can distress some transgender girls. Hormone blockers would prevent these changes. However, some believe children cannot make such serious decisions. Legally, parents or guardians consent to medical care for minors. This often means waiting until they can consent for themselves before receiving hormone therapy. By then, puberty has already made lasting changes to the body, which require greater medical intervention to alter.

Studies by Turban et al. (2020) and Achille et al. (2020) show important findings. Transgender youth who received pubertal suppression hormones saw a decrease in suicidal ideation, depression and anxiety. They reported improved overall mental health. The Endocrine Society guidelines and the World Professional Association for Transgender Health (WPATH) Standards of Care recommend puberty blockers for transgender adolescents. These blockers are formally known as gonadotropin-releasing hormone analogues (GnRHAs).

# GS.22: Case Study - Mei and Kelly's Journey Through Sexual Development

Approximate reading time: 3 minutes

## Infancy (Birth to 1 Year)

Mei and Kelly, both assigned female at birth, show typical infant behaviours. They experience physical arousal such as vaginal lubrication, which their parents understand as a sign of overall physical contentment, often occurring during feeding or when they feel warm and comfortable.

## Early Childhood (1–3 Years)

As toddlers, Mei and Kelly begin exploring their own bodies. They discover their genitals and touch them, which is a normal part of their development. This self-stimulation provides comfort and tension relief. Their parents respond neutrally, understanding this as a natural stage of self-discovery and body awareness.

## Middle Childhood (4–10 Years)

During these years, Mei and Kelly's experiences begin to diverge. Mei continues to develop a feminine understanding of her gender and body. She occasionally asks questions about body changes, which her parents answer openly.

Kelly, however, starts expressing discomfort with being identified as a girl. At age 7, Kelly voices a desire to be recognised as a boy and shows interest in traditionally masculine activities and clothing. Kelly's parents, though initially unsure, seek guidance on how to best support their child's gender expression.

## Early Adolescence (11–13 Years)

As Mei enters puberty, she experiences typical female developments, such as breast growth. She has her first menstrual period at 12. Mei's school provides comprehensive sex education, which helps her understand and cope with these changes.

Kelly, identifying as a transgender boy, faces a challenging time as his body begins to show signs of female puberty. With the support of his parents, Kelly consults a healthcare professional who discusses the option of puberty blockers to delay female puberty, aligning his physical development more closely with his gender identity.

## Late Adolescence (14–18 Years)

Mei navigates her teenage years with a typical progression through female puberty. She experiences a range of emotions and social situations typical of this developmental stage, including her first romantic attractions and relationships. Mei has not yet decided whether she is attracted to females, males or both. Rather than feel pressure from her groups of friends to decide, She decides to wait and see how she feels later.

Kelly begins hormone therapy at 16 with parental consent, after being on puberty blockers. This treatment brings his physical appearance more in line with his male identity, easing his gender dysphoria. He experiences a deepening of his voice and other male secondary sexual characteristics. Kelly feels sexually attracted to a friend on his soccer team. They go to school dances and hang out on weekends.

## Early Adulthood (19–40 Years)

Both Mei and Kelly enter adulthood with a strong sense of their sexual identities. Mei pursues relationships and experiences that align with her bisexual orientation. Kelly, now legally an adult, continues his gender-affirming treatments and lives confidently as a transgender man. He becomes an advocate for transgender youth, sharing his journey and the importance of support and understanding through all stages of sexual development.

# GS.23: Deep Dive - Sexuality and Ability

Approximate reading time: 5 minutes

Ability is not something we either have or don't have; rather it is a concept that lies in perception, constantly in flux as we cope with pain, emotional distress, sickness and accidents. Neurodivergent or physical differences that we could be born with can give us insight into the way society is often created without flexibility in mind, as we develop techniques to navigate and live our lives to the fullest. The qualities of being differently-abled or disabled exist on continuums from visible to invisible, and are experienced in ways that are psychological and physical.

Sexuality connects with ability in profound ways that can be beneficial to explore. While people who are differently-abled or disabled are often placed together under these umbrella terms, the reality of individuals' experiences is vast and multidimensional. The mainstream media effectively erases the experiences of individuals who are differently-abled or disabled, and, through reduced representation, limits opportunities for individuals to see people like themselves engaged in relationships and exploring their sexuality.

## Psychological Health

Looking at sexuality as it connects with mental health is vitally important because people who are coping with conditions like anxiety, depression, bipolar disorder, ADHD, trauma, schizophrenia, and substance dependence may experience changes in their self-perception related to the status or severity of current flare-ups of their symptoms. Sexual risk-taking behaviour, relationship distress, taking medication (prescribed or self-medicating), and body image are interwoven with mental health status and sexual functioning. Some symptoms can either increase (i.e., manic episode) or decrease (i.e., depressive episode) sexual desire or responsiveness, or increase risk-taking behaviours. Medications often have sexual side-effects that can be addressed by changing medications (after discussing this with a doctor) or seeking substance use treatment. People who are neurodivergent or who experience cognitive impairments are sometimes desexualized by caregivers, teachers and healthcare workers, which opens them up to engaging in risky behaviours because they do not have access to much-needed information regarding their bodies, boundaries, and consent (Manoj & Suja, 2018; Grove et al., 2018). Thus, education, resources, and support tailored to each individual's experiences and related to their psychological abilities are necessary.

Providing individuals with the tools to understand their mental health diagnoses and the ways in which these connect with their sexuality can be empowering. Mental health symptoms can also make people feel uncomfortable and uneasy within their minds and bodies (dysphoria). For instance, normalising and validating the way that hypervigilance and trauma reminders can interfere with relationship intimacy and sexual engagement, and developing methods to cope with the underlying trauma, will benefit sexual functioning. Treating people holistically and recognising that sexual difficulties are often a surface-level symptom for other interconnected struggles is important.

## Physical Health and Pain

Being differently-abled or disabled physically can be something people experience across their lifespan, or developed

at some point in time. Some people may be able to fully heal and some may have residual symptoms. Illnesses can be acute (sudden) or chronic (present over a long period). These experiences may be visible (e.g., wheelchair, cane, hearing aid, hair loss) while others may be invisible (e.g., pain levels, fatigue). Some examples of physical health concerns are: cardiovascular diseases, cancer, autoimmune diseases, diabetes, multiple sclerosis, cerebral palsy, experiencing visual or auditory differences, and spinal cord injuries (paraplegia and quadriplegia). All of these can impact desire and cause sexual difficulties. Relationships with one's own body and self-perception shift throughout different stages of illness, pain, frustration, and acceptance. Relationships with others change as lovers may also become caregivers and feelings of weakness or relying on others can cause strains in this dynamic. Reframing roles and letting go of labels allows for greater possibilities. Loss of a body part due to a surgery or injury can cause specific self-image alterations, challenge feelings of attractiveness and self-worth, and cause people to question aspects of their femininity and/or masculinity.

# GS.24: Deep Dive - Sexology: Sex Research

Approximate reading time: 8 minutes

## Exploring Human Sexuality: Insights from Sex Research

The study of human sexuality, known as sexology, is a fascinating and complex field that intersects various disciplines including psychology, biology, and sociology. It aims to understand the many aspects of sexual behaviour, preferences and functioning. Sexologists — the experts in this field — employ their extensive training to explore and explain the diverse facets of human sexuality.

Their work spans several domains, from clinical practice and counselling to educational roles and groundbreaking research. These professionals delve into the intricacies of sexual behaviour and emotions, offering guidance and solutions to individuals grappling with sexual issues, and improving their overall quality of life (Tilley, 2015).

## Pioneering Research by Kinsey

Before the late 1940s, access to reliable, empirically-based information on sex was limited. Physicians were considered authorities on all issues related to sex, despite the fact that they had little to no training in these issues, and it is likely that most of what people knew about sex had been learned either through their own experiences or by talking with their peers. Convinced that people would benefit from a more open dialogue on issues related to human sexuality, Dr. Alfred Kinsey of Indiana University initiated large-scale survey research on the topic. The results of some of these efforts were published in two books: *Sexual behaviour in the Human Male*, and *Sexual behaviour in the Human Female*, which were published in 1948 and 1953, respectively (Bullough, 1998).

In 1947, Alfred Kinsey established The Kinsey Institute for Research, Sex, Gender and Reproduction at Indiana University, shown here in 2011. The Kinsey Institute has continued as a research site of important psychological studies for decades.

At the time, the Kinsey reports were quite sensational. Never before had the American public seen its private sexual behaviour become the focus of scientific discussion on such a large scale. The books, which were filled with statistics and scientific lingo, sold remarkably well to the general public, and people began to engage in open conversations about human sexuality. As you might imagine, not everyone was happy that this information was being published. In fact, these books were banned in some countries. Ultimately, the controversy resulted in Kinsey losing funding that he had secured from the Rockefeller Foundation to continue his research efforts (Bancroft, 2004).

Although Kinsey's research has been widely criticised as being riddled with sampling and statistical errors (Jenkins, 2010), there is little doubt that this research was very influential in shaping future research on human sexual behaviour and motivation. Kinsey described a remarkably diverse range of sexual behaviours and experiences reported by the volunteers participating in his research. Behaviours that had once been considered exceedingly rare or problematic were shown to be much more common and harmless than previously thought. (Bancroft, 2004; Bullough, 1998).

Among the results of Kinsey's research were the findings that women are as interested and experienced in sex as

men, that both females and males masturbate without adverse health consequences, and that homosexual acts are fairly common (Bancroft, 2004). Kinsey also developed a continuum known as the Kinsey scale (See the Kinsey Scale in the previous discussion, in Learning about Binary, Continuum, and Sliding Scale Models above) that is still commonly used today to categorise an individual's sexual orientation (Jenkins, 2010). Sexual orientation is an individual's emotional and erotic attractions to same-sexed (now called same gender) individuals (homosexual), individuals from opposite-sex (now called other gender) (heterosexual), or both (bisexual).

In this textbook, we will refer to women and men when referring to historical data that was originally categorised by researchers as a binary gender.

When discussing gender in the present or future tense we will update gender-based language to avoid reinforcing misleading binary gender oversimplifications.

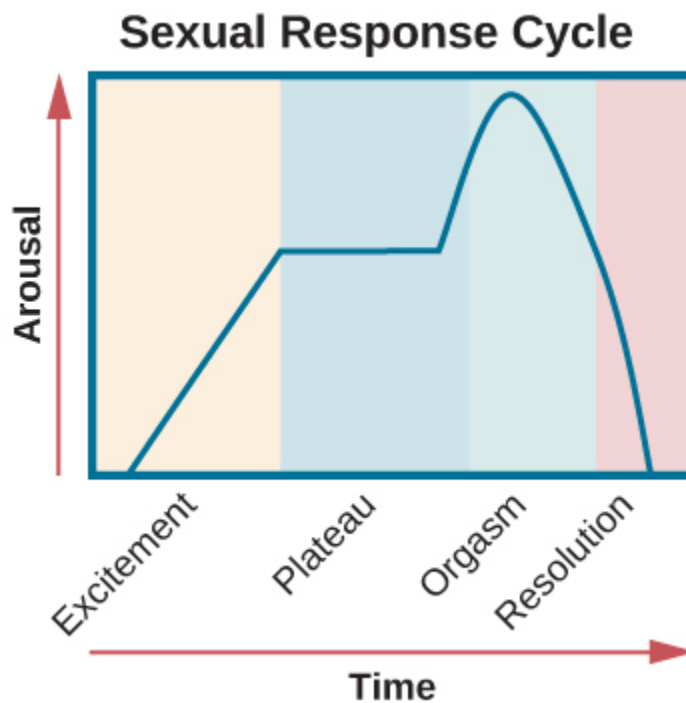
## Advancements by Masters and Johnson

William Masters (1915-2001) and Virginia Johnson (1925-2013) formed a research team in 1957 that expanded studies of sexuality from merely asking people about their sex lives to measuring people's anatomy and physiology while they were actually having sex. Masters was a former Navy lieutenant, and trained gynaecologist with an interest in studying sex workers. Johnson was a former country music singer with an interest in studying sociology. Masters and Johnson became romantic partners, and eventually married each other but later divorced. Despite their colourful private lives they were dedicated researchers with an interest in understanding sex from a scientific perspective.

In 1966, William Masters and Virginia Johnson published a book detailing the results of their observations of nearly 700 people who agreed to participate in their study of physiological responses during sexual behaviour. Unlike Kinsey, who used personal interviews and surveys to

collect data, Masters and Johnson observed people having intercourse in a variety of positions, and they observed people masturbating, manually or with the aid of a device. While this was occurring, researchers recorded measurements of physiological variables, such as blood pressure and respiration rate, as well as measurements of sexual arousal, such as vaginal lubrication and penile tumescence (swelling associated with an erection). In total, Masters and Johnson observed nearly 10,000 sexual acts as a part of their research (Hock, 2008).

Based on these observations, Masters and Johnson divided the sexual response cycle into four phases that are fairly similar in a person with a clitoris and vagina as compared to a person with a penis: excitement, plateau, orgasm, and resolution.



*Figure SUP GS.1. Sexual response cycle. This graph illustrates the different phases of the sexual response cycle as described by Masters and Johnson.*

## The Sexual Response Cycle

- **Excitement:** Activation of the sympathetic branch of the autonomic nervous system defines the excitement phase; heart rate and breathing accelerate, along with increased blood flow to the vaginal walls, clitoris, penis, and nipples (vasocongestion). Involuntary muscular movements (myotonia), such as facial grimaces, also occur during this phase.
- **Plateau:** Blood flow, heart rate, and breathing intensify during the plateau phase. During this phase, often referred to as “foreplay”, females experience an orgasmic platform (the outer third of the vaginal walls tightening) and males experience a release of pre-seminal fluid containing healthy sperm cells (Killick et al., 2011). This early release of fluid makes penile withdrawal a relatively ineffective form of birth control (Aisch & Marsh, 2014).
- **Orgasm:** The shortest but most pleasurable phase is the orgasm phase. After reaching its climax, neuromuscular tension is released and the hormone oxytocin floods the bloodstream, facilitating emotional bonding. Although the rhythmic muscular contractions of an orgasm are temporally associated with ejaculation, this association is not necessary because orgasm and ejaculation are two separate physiological processes.
- **Resolution:** The body returns to a pre-aroused state in the resolution phase. Most males enter a refractory period of being unresponsive to sexual stimuli. The length of this period depends on age, frequency of recent sexual relations, level of intimacy with a partner, and novelty. Because most females do not have a refractory period, they have a greater potential, physiologically, of having multiple orgasms.

This foundational research by Masters and Johnson, along with Kinsey’s earlier work, has significantly influenced our understanding of human sexuality, making it a subject of serious academic inquiry and public discussion.

## Image Attributions

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# GS.25: Deep Dive - Skin Hunger and The Brain

Approximate reading time: 4 minutes

The somatosensory cortex (SC) is the part of the brain primarily responsible for processing sensory information from the skin. To understand Figure GS.2, the more sensitive an area of your skin is (e.g., your lips), the larger the corresponding area of the SC will be; the less sensitive an area of your skin is (e.g., your trunk), the smaller the corresponding area of the SC will be (Figure SUP GS.2, Penfield & Boldrey, 1937).

When a sensitive area of a person's body is touched, it is typically interpreted by the brain in one of three ways: "That tickles!", "That hurts!" or, "That...you need to do again!" Thus, the more sensitive areas of our bodies have greater potential to evoke pleasure.

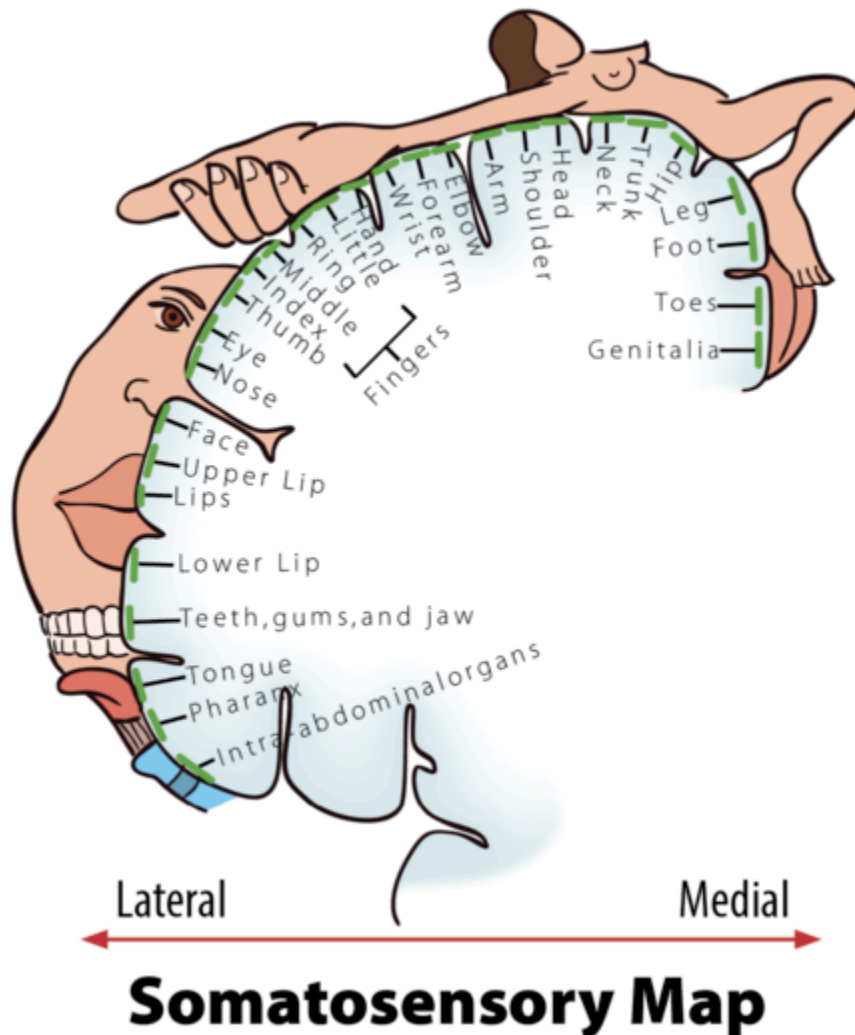


Figure SUP GS.2. Somatosensory Map. Erogenous Zones Mapped on the Somatosensory Cortex.

It's clear that our sexual experiences are shaped by both our biology and our social environment. In the same way that we all react differently to things like loud noises or pain, we also have our own unique ways of experiencing sexual feelings. These experiences are influenced by our life's journey and can change over time.

We've learned that sexual response isn't just about our bodies reacting; it's also about how we think and feel about these reactions. Our brains play a huge role in this. They process the sensations from our skin and can make us feel pleasure. We've seen that areas like the lips have a big part of the brain, the somatosensory cortex, dedicated to them. This means they can give us strong feelings of pleasure.

Remember, the way we understand and interpret these feelings can be affected by our society and culture. What we think is normal or acceptable can change how we feel about our own sexual responses. It's important to keep an open mind and understand that everyone's experience is unique.

Sexual response, at its core, is our body's celebration of pleasure, joy, excitement, and fun. It's a dance of sensations and emotions that can elevate our experiences to new heights of happiness and fulfillment. This kind of ecstatic enjoyment is deeply rooted in mutual, respectful and consensual relationships. It thrives in an environment where vulnerability is embraced, intimacy is shared, and communication is open and honest. In such a setting, sexual response becomes more than just a physical reaction; it can facilitate connection to self (during masturbation) or another during sexual activity. This joyous exploration of sexuality, underpinned by trust and respect, not only enhances our physical pleasure but also strengthens our emotional bonds, enriching our lives with a deeper sense of satisfaction and happiness.

In summary, sexual response is a mix of our physical bodies, our brains, and the world around us. Understanding this can help us appreciate the diversity of human sexuality and the importance of respecting everyone's individual experiences.

## Image Attributions

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# GS.26: Deep Dive - Body Image - Harms Done by False Beauty Ideals

Approximate reading time: 3 minutes

## Body Image

Our bodies take us through life, but how we see them is often shaped by society's labels that can make us feel less important, left out, and less human. Stretch marks, scars, cellulite, acne, muscles, fat, curves and birthmarks are devoid of meaning, except the meaning we give to them. Fitness magazines, airbrushed images of celebrities, computer generated images, movies, and music videos are presented to us as reality, which causes a warped perception about what actual human bodies look like, naked and clothed. These unrealistic standards can lead to a distorted self-image and heightened body dissatisfaction. When we are inundated with and overwhelmed by these idealised images, we are left questioning our own self-worth and beauty. If what we find beautiful depends on who is looking, how can we learn to see ourselves as beautiful just the way we are? How can we remove all the false messages from the media, society, family and friends?

The internalisation of beauty ideals significantly impacts body image, leading to dissatisfaction, disordered eating behaviours, self-objectification, and lowered self-esteem. This influence is evident across various demographics and is exacerbated by media exposure.

1. **Increased Body Dissatisfaction:** Exposure to widely accepted (hegemonic) beauty ideals, especially through social media, makes people more unhappy with their own bodies. This effect is moderated by the internalisation of gender-specific beauty ideals (Castellanos Silva & Steins, 2023).
2. **Heightened Body Image Concerns:** Higher internalisation of beauty ideals portrayed by the media leads to greater body image dissatisfaction, particularly in specific demographic groups like Asian American women (Lau et al., 2006).
3. **Disordered Eating Behaviours:** Internalisation of beauty ideals, such as thinness and big muscles, can lead to disordered eating behaviours and muscularity-oriented behaviours (Hoffmann & Warschburger, 2019).
4. **Self-Objectification and Comparison:** Greater overall social media use is associated with increased self-objectification — the process of viewing oneself primarily as an object to be evaluated based on physical appearance, rather than for personal qualities or competencies (Fardouly et al., 2018).
5. **Influence on Self-Esteem:** Passive use — just scrolling — of platforms like Facebook influences women's internalisation of societal beauty ideals, inversely related to their body satisfaction and self-esteem (Strubel et al., 2018).
6. **Impact on BIPOC People:** The internalisation of idealised media images negatively impacts the body image and satisfaction with self-appearance of Black, Indigenous and Person of Colour (BIPOC) people (Capodilupo, 2015).
7. **Influence on Adolescents:** Adolescents internalise media messages about established beauty standards, leading to increased dissatisfaction with body size/shape and potentially unhealthy behaviours to achieve "ideal beauty" (Uchôa et al., 2017).
8. **Media's Role in Shaping Ideals:** Parents, peers and mass media contribute to the degree to which adolescents internalise cultural ideals, decreasing their level of body satisfaction and increasing fashion consumption behaviour (Manchiraju & Damhorst, 2016).

9. **Media-Induced Negative Mood and Self-Esteem:** Exposure to “thin-and-beautiful” media images negatively affects body image and mood states of young women (Yamamiya et al., 2005).

# GS.27: Deep Dive - Techniques to Heal Unhealthy Body Image

Approximate reading time: 3 minutes

Adopting society's beauty standards as your own, a process known as beauty ideal internalisation, can significantly influence body image, especially when individuals frequently compare themselves to others (Baceviciene & Jankauskiene, 2021). Cognitive Behavioural Therapy (CBT, a type of therapy that focuses on changing negative thinking and behaviour) techniques, have been effective in improving body image. This improvement involves recognising and changing irrational or false beliefs, referred to as cognitive distortion, and using methods like evaluating the accuracy of your thoughts (perception checking) and comparing thoughts to real life (reality testing). According to Alleva et al. (2015), changing the way you think about your body, using neutral instead of judgmental words to describe it, thinking back to times when you felt bad about your body and rewriting those experiences in a positive way, and getting better at understanding and resisting media messages about beauty, were helpful techniques. These findings were based on their study that combines the results of multiple studies, a meta-analysis of previous research.

## Some Steps to Love Your Body in a Social Media World

Utilising this knowledge, try out some of these methods and make notes about how you feel about yourself throughout the process.

- Take a look at your social media accounts (TikTok, Instagram, YouTube, Twitter, Facebook, etc.) and unfollow people or products that make you feel bad about your body. Increase your media literacy by reminding yourself that what is shown is not reality.
- Be more selective about what you watch and expose yourself to, and pay attention to the ways the media impacts your thoughts, feelings, and behaviours.
- Choose media that uplifts and supports you. Resist media that is judgmental and negative.
- When you see images of people who have attributes you desire or see something that makes you feel self-conscious about the way you look, reality-check your experiences by asking yourself questions.
- Recognise common thinking errors related to our body image.
- Reality-check and restructure our cognitions by putting thoughts on trial and challenging negative thoughts.

To illustrate these techniques in action, consider the case of Emile, a 20-year-old college student.

[Supplement GS.28: Case Study - Emile's Path to Accepting His Body \[New Tab\]](#)

# GS.28: Case Study - Emile's Path to Accepting His Body

Approximate reading time: 5 minutes

## Background

Emile, a 20-year-old college student, has been struggling with body image issues, particularly since he is 20 pounds heavier than what is considered his healthy weight. His discomfort began in his late teens, exacerbated by constant exposure to idealised male physiques in movies, fitness magazines, and social media. This led Emile to internalise a narrow definition of an attractive male body, often comparing himself unfavourably to fitness models and influencers.

## Challenge

Emile's dissatisfaction with his body started to affect his daily life significantly. He found himself obsessively checking social media, leading to negative self-talk and a growing sense of inadequacy. This negative self-perception led to a decline in his self-esteem and reluctance to participate in activities he previously enjoyed, like swimming or going to the gym, due to body consciousness.

## Intervention

Seeking to change his perspective, Emile consulted a therapist who specialises in Cognitive Behavioural Therapy (CBT). They worked together on several techniques:

## Recognising Cognitive Distortions

Emile learned to identify and challenge irrational beliefs about his body, such as "I must be in perfect shape to be accepted". Emile identified the thought, "If I'm not lean, I'm not attractive," and challenged it by reminding himself that attractiveness is subjective and not solely based on body shape. He recognised the belief, "People will only like me if I'm fit," and countered it with the understanding that genuine relationships are based on more than physical appearance.

## Perception Checking and Reality Testing

He practised assessing the accuracy of his thoughts against reality, understanding that his perceptions were influenced by media portrayals. When Emile thought, “Everyone at the gym is judging me,” he checked this perception by reminding himself that most people are focused on their own workouts. Facing the thought, “I must look like the models I see online to be happy”, he tested this against reality by acknowledging the diversity of happy and successful people with various body types.

## Changing Language

The therapist encouraged Emile to use neutral or positive language when describing his body, shifting from criticism to appreciation. For example, instead of, “I hate how chubby my stomach looks,” Emile could say, “My stomach is part of my unique body.” Rather than thinking, “My arms are too flabby,” he could reframe it as, “My arms are strong and enable me to do my daily tasks.”

Instead of criticising, “I look overweight in these clothes,” Emile could shift to, “These clothes are comfortable and make me feel good about myself.” Rather than saying, “I don’t like my body shape,” he could think, “My body has carried me through many important moments in life, and I am grateful for its strength and resilience.” Instead of saying, “I’m out of shape,” Emile began to describe himself as, “I’m on my journey to becoming healthier.” Rather than thinking, “I look terrible,” he shifted to, “I have my own unique style and look.”

## Reframing Past Experiences

Emile revisited moments when he felt self-conscious, working to create new, positive narratives for those memories. Emile remembered feeling embarrassed about his body at a pool party. He reframed this by focusing on the fun interactions he had that day. Recalling a time when he felt insecure on a date, he changed the narrative to appreciate his courage in socialising and being himself.

## Improving Media Literacy

Emile was taught to critically analyse media content and consciously reduced his exposure to sources that fuelled his insecurities. Emile used to feel inadequate when he saw fitness influencers. He learned to recognise the editing and staging behind such posts, which reduced their impact on his self-image. After noticing a pattern of feeling down after browsing certain fashion websites, he started to seek out media that celebrated body positivity and diversity.

## Outcome

Over time, Emile noticed a significant improvement in his body image and self-esteem. He became more mindful of his media consumption and developed a healthier relationship with social media. Joining a support group for young men dealing with similar issues helped Emile to feel less alone on his journey.

## Conclusion

Emile's case demonstrates the impact of societal standards on male body image and the effectiveness of CBT in overcoming these challenges. By addressing his cognitive distortions and changing his interaction with media, Emile began to develop a more positive and realistic view of his body. This case study underscores the importance of mental health interventions in addressing body image concerns and fostering self-acceptance. Emile's journey is a powerful reminder of the strong impact of societal standards on body image and the transformative power of self-acceptance and mental health support.

# GS.29: Deep Dive - The Effects of Sexual Violence on Sexual Wellness and Behaviour

Approximate reading time: 3 minutes

Content Disclosure: This section discusses the physiological and psychological responses to sexual violence, and its impact on healthy sexual expression and development. Please be mindful that this content may be distressing for some readers.

Sexual violence is a profoundly traumatic experience that can have wide-ranging effects on an individual's physiological and psychological well-being. Physiologically, the body may respond to the trauma of sexual violence with increased stress responses, such as heightened cortisol levels, which can lead to a state of constant alertness or feeling "on edge" (American Psychological Association [APA], 2020; Sachs-Ericsson, Cromer, Hernandez, & Kendall-Tackett, 2019). This heightened state of stress can disrupt normal bodily functions, leading to sleep disturbances, changes in appetite, and other stress-related physical ailments. Psychologically, victims of sexual violence may experience a range of responses, including post-traumatic stress disorder (PTSD), anxiety, depression, and difficulties with trust and intimacy (Campbell, Dworkin, & Cabral, 2009; Smith et al., 2017). These responses are natural reactions to the trauma experienced and can significantly impact an individual's mental health and well-being.

The aftermath of sexual violence can also profoundly affect an individual's sexual expression, behaviors and development. Healthy sexual development and expression are based on principles of consent, mutual respect, and pleasure. However, when someone experiences sexual violence, these principles are violated, leading to potential difficulties in establishing and maintaining healthy sexual relationships in the future. Victims may experience changes in their sexual desire, and difficulties with sexual functioning; they may either withdraw from sexual contact or engage in risky sexual behaviours as a coping mechanism (Meston & Lorenz, 2013; Pulverman, Kilimnik, & Meston, 2018). Understanding these impacts is crucial for providing compassionate and effective support to survivors of sexual violence, emphasising the importance of trauma-informed care that acknowledges and addresses the complex interactions between physiological and psychological responses to trauma.

# GS.30: Case Study - Anjali and the Science of Heartbreak

Approximate reading time: 3 minutes

## Background

Anjali, a 22-year-old university student, recently experienced a difficult breakup. She noticed that the emotional pain was accompanied by physical symptoms like a tight chest and a loss of appetite. Intrigued by her own reactions, Anjali, a psychology major, decided to explore the biochemistry of love and heartbreak for her class project.

## Researching her project

Anjali began by researching the role of neurotransmitters in love. She learned that feelings of love are associated with increased levels of oxytocin, vasopressin, dopamine, and serotonin. These chemicals contribute to feelings of happiness, trust, and bonding. Anjali related this to the intense joy and connection she felt in the early stages of her relationship.

## Heartbreak and the Brain

Delving deeper, Anjali discovered that romantic love activates the brain's limbic system, which is also involved in fear and anxiety responses. The physical pain of heartbreak, she found, could be linked to this part of the brain. The vagus nerve, which transmits sensations, plays a role in the emotional intensity experienced during both love and heartbreak.

## Conclusion

For her project conclusion, Anjali presented the idea that love, influenced by biochemical processes, has significant mental and physical implications. She proposed further research into how understanding these processes could lead to better mental health strategies and therapies.

## Discussion Questions

1. How might Anjali's upbringing have influenced her reaction to the breakup?
2. What are the implications of Anjali's findings for understanding the physical symptoms of heartbreak?
3. How could this knowledge of biochemistry be applied in therapeutic settings?

# CHAPTER 17. WELL-BEING

# WB.1: Deep Dive - Karim's Journey Towards a Happier Life

Approximate reading time: 3 minutes

Karim is a 22-year-old university student majoring in music. Despite his talent in piano and consistently high grades, Karim has always struggled with low self-esteem. He grew up in a family where achievements were expected, and praise was rare, leading him to doubt his own abilities. His parents often focused on what could be improved rather than what was done well, ingraining in Karim a heightened sensitivity to criticism.

At university, Karim is well-liked and often receives compliments for his kindness, generosity, and musical skills. However, he finds it hard to believe these compliments, focusing instead on any critical or neutral comments he receives. This pattern leaves him feeling perpetually inadequate and anxious, overshadowing his achievements and positive qualities.

His friends and professors have noticed Karim's tendency to downplay his accomplishments and are concerned about his worsening self-esteem. They encourage him to acknowledge and embrace the positive aspects of his life.

## Implementing the Elements of Happiness

### The Pleasant Life

**Strategy:** Karim starts embracing daily pleasures. He begins to appreciate small joys like morning walks, savouring his favourite coffee, and enjoying moments of laughter with friends.

**Impact:** Over time, these small pleasures start to accumulate, offering Karim brief yet frequent bursts of joy, easing his feelings of inadequacy.

### The Good Life

**Strategy:** Karim channels his passion for music. He sets aside dedicated hours for piano practice, not just for academic purposes but for personal enjoyment and mastery. He chooses pieces that challenge and excite him, seeking a sense of accomplishment in each session.

**Impact:** This deliberate engagement in his passion helps Karim discover a sense of fulfilment. He begins to recognize his strengths and feels more aligned with his true self.

## The Meaningful Life

**Strategy:** Beyond his music, Karim volunteers at a local food bank. He finds joy in helping others, realizing that his actions contribute to something bigger than himself.

**Impact:** This sense of purpose fuels Karim's self-worth. He understands that his life has broader implications beyond his personal achievements and struggles.

## Karim's story to be continued ...

We will revisit Karim's story in later sections in this chapter: "Rewiring for Happiness" and the "PERMA model." We'll observe different strategies for creating a more positive outlook. We will see that these strategies will not only enhance his day-to-day happiness but also contribute to a profound shift in his mindset and overall well-being. His journey exemplifies the practical application of psychological principles in a real-world context, highlighting the power of positive psychology in transforming lives.

# WB.2: Deep Dive - The Science of Happiness: Research Findings

Approximate reading time: 5 minutes

What really makes us happy? Researchers have been exploring this for years, trying to understand if things like money, looks, possessions, enjoyable jobs, or good relationships make a difference. Here's what they found:

## Age and Happiness

As people get older, they tend to feel more satisfied with life. However, happiness doesn't seem to differ much between men and women (Diener, Suh, Lucas, & Smith, 1999).

## Family and Relationships

Close relationships, like being married, seem to make people happier. Those who are happily married report being happier than those who are single, divorced, or widowed (Diener et al., 1999). Good marriages and strong social connections are linked to happiness (Lyubomirsky et al., 2005).

## Money and Happiness

This is a tricky one. Yes, money can buy happiness to an extent. People in richer countries and those who are wealthier tend to be happier. But, happiness only increases with income up to a certain point. After about \$75,000 per year, more money doesn't necessarily mean more happiness (Kahneman & Deaton, 2010). Surprisingly, having more money can sometimes stop people from enjoying simple things in life (Kahneman, 2011; Quoidbach et al., 2010).

## Education, Employment, and Happiness

Happy people are more likely to have graduated from college and to have jobs that they find meaningful. Education has a slight connection to happiness, but being smart doesn't directly make you happier (Diener et al., 1999).

## Religion and Happiness

Generally, religious people report being happier. This connection depends a lot on where you live. In places with tougher living conditions, being religious is linked to greater well-being (Hackney & Sanders, 2003; Diener, Tay, & Myers, 2011).

## Culture and Happiness

If your personality and values fit well with your culture, you're likely to be happier. For example, in cultures that value individualism, self-esteem is a big factor in happiness (Diener, Diener, & Diener, 1995; Diener, 2012).

So, while many factors contribute to happiness, things like parenthood and physical attractiveness don't seem to have a strong link. Although people often think having children is key to a happy life, research suggests that those without children are usually happier (Hansen, 2012). And how attractive you think you are matters more for happiness than your actual looks (Diener, Wolsic, & Fujita, 1995).

Recently, researchers have been looking at whether big life events permanently change our happiness levels (Diener, Lucas, & Scollon, 2006). It seems that sometimes they do and sometimes they don't. For example, marriage might not keep making us happier, but unemployment or severe disabilities might lead to a long-term drop in happiness. A study showed that after events like marriage, unemployment, or losing a spouse, people's happiness levels changed; sometimes they went back to normal, sometimes they didn't (Diener et al., 2006; Fujita & Diener, 2005).



(a)



(b)

*Figure SUP WB.1. Happiness. (a) Long-suffering Chicago Cub fans felt elated in 2016 when their team won a World Series championship, a feat that had not been accomplished by that franchise in over a century. (b) In ways that are similar, those who play the lottery rightfully think that choosing the correct numbers and winning millions would lead to a surge in happiness. However, the initial burst of elation following such elusive events would most likely erode with time. (credit a: modification of work by Phil Roeder; credit b: modification of work by Robert S. Donovan)*

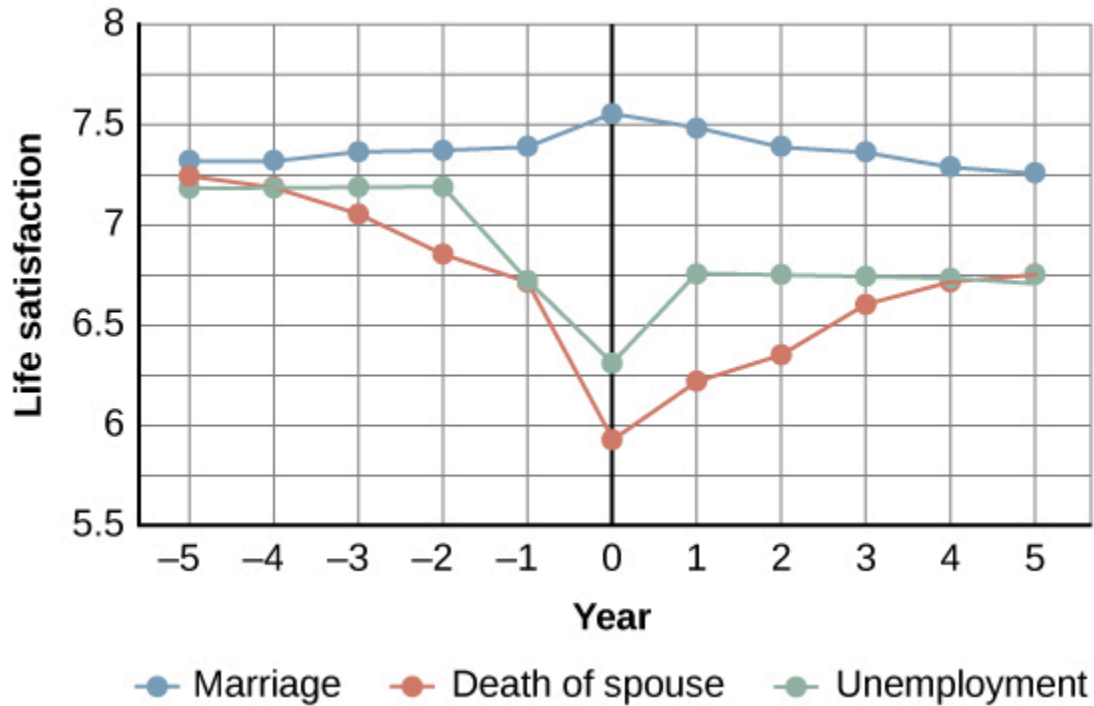


Figure SUP WB.2. *Happiness over life events.* This graphs shows life satisfaction scores several years before and after three significant life events (0 represents the year the event happened) (Diener et al., 2006).

This graph (Figure SUP WB.2) shows how people’s happiness changed before and after big life events like getting married, losing a job, or losing a spouse. For marriage, happiness peaked around the wedding then slightly dropped. For unemployment and losing a spouse, happiness fell sharply and then recovered a bit, but not completely.

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# WB.3: Deep Dive - Where in the World are the Happiest People?

Approximate reading time: 2 minutes

In the last 30 years, there's been a lot more research on happiness. One big question is: How happy are people generally? It turns out, most people around the world are pretty happy and feel more positive than negative (Diener, Ng, Harter, & Arora, 2010). When people from over 150 countries rated their lives on a scale from 0 (worst life) to 10 (best life), the average score was 5.2. People in North America, Australia, and New Zealand scored the highest average at 7.1, while those in Sub-Saharan Africa scored the lowest at 4.6 (Helliwell, Layard, & Sachs, 2013). The top five happiest countries are Denmark, Norway, Switzerland, the Netherlands, and Sweden, with the United States ranked 17th (Helliwell et al., 2013).



(a)



(b)

*Figure SUP WB.3. Happiness. (a) Surveys of residents in over 150 countries indicate that Denmark has the happiest citizens in the world. (b) Americans ranked the United States as the 17th happiest country in which to live.*

A few years back, a Gallup survey found that 52% of American adults said they were “very happy” and over 80% were “very satisfied” with their lives (Carroll, 2007). But a recent poll showed only 42% of American adults feel “very happy.” Happiness has dropped mostly among people of colour, those without a college degree, and Democrats or independents (McCarthy, 2020). This might mean that tough economic conditions are linked to lower levels of happiness. This raises a question: How much does money influence happiness? What other factors play a role?

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# WB.4: Deep Dive - Unlocking Happiness: Is It All in Your Mind or Shaped by the World Around You?

Approximate reading time: 3 minutes

There are external influences on people’s happiness, such as the circumstances in which they live. It is possible for some to be happy living in poverty with ill health or with a child who has a serious disease, but this is difficult. In contrast, it is easier to be happy if one has supportive family and friends, plenty of resources to meet one’s needs, and good health. Even here there are exceptions — people who are depressed and unhappy while living in excellent circumstances. Thus, people can be happy or unhappy because of their personalities and the way they think about the world or because of the external circumstances in which they live. People vary in their approach to happiness, in their personalities and positive or negative outlook, and this means that knowing their living conditions is not enough for psychologists or researchers to predict happiness.

The table below shows internal and external circumstances that influence happiness. There are individual differences and exceptions in what makes people happy, but, in general, the causes in the table are important for most people (Diener, Suh, Lucas, & Smith, 1999; Lyubomirsky, 2013; Myers, 1992).

Table SUP WB.1. Internal and external causes of subjective well-being

Internal Causes	External Causes
<ul style="list-style-type: none"> <li>• <b>Inborn temperament:</b> Studies of monozygotic (i.e., identical) twins raised apart indicate that our genes influence our happiness. Even when raised apart, identical twins tend to be similar in their levels of subjective well-being.</li> <li>• <b>Personality and temperament:</b> Personality is partly inborn and partly learned, and it influences our happiness. For example, extroverts tend to have more positive feelings, and neurotics tend to have more negative feelings.</li> <li>• <b>Outlook:</b> People can develop habits of noticing the good things in life and interpreting ambiguous events in positive ways. Other people develop negative mental habits, leading to more unhappiness. One’s culture also can influence whether we take an optimistic or pessimistic view of life.</li> <li>• <b>Resilience:</b> Happy individuals tend to bounce back more quickly after losses and negative events.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Sufficient material resources:</b> People have enough money to meet their basic needs and fulfill their major goals.</li> <li>• <b>Sufficient social resources:</b> People differ in their need for social contact, but everyone needs some supportive and trusted others: family, a friend, or a partner, or sometimes all three. We need other people to lead a fulfilled life.</li> <li>• <b>Desirable society:</b> Our own efforts and circumstances influence our happiness, but so does the society in which we live. A society of hunger, war, conflict, and corruption is much less happy than one with material resources, high levels of trust and cooperation, and people who want to help each other.</li> </ul>

# WB.5: Deep Dive - Finding Your Flow and Focusing on Engagement: Our Two Paths to Fulfillment

Approximate reading time: 3 minutes

Flow and engagement are parts of the PERMA model (see text box.W.1), especially important for feeling deeply involved in life. Flow is when you are so into an activity that you lose track of time. Everything else fades away because you are completely focused on what you are doing. It's like when you are playing a game or doing a hobby and everything just "clicks". Flow could also happen when you are painting a landscape, playing a musical instrument, or even solving a complex puzzle.

Engagement, on the other hand, is about being deeply involved in activities that challenge us. It means being so absorbed in something that it requires our full attention and skills, but in a broader sense than flow. It's not just about moments; it's about how we engage with life in general, including our work, learning, and hobbies.

Both flow and engagement help us feel more connected to what we are doing and give us a sense of satisfaction. They are crucial for our well-being because they make us feel alive and part of something bigger. When we experience flow and engagement, we are using our strengths and abilities to their fullest, which is a key part of being happy and fulfilled.

The concept of flow, as defined by Csikszentmihalyi (1997, 1999), is unique because it usually occurs during individual activities, where your skills perfectly match the challenge at hand. About 20% of people in America and Europe report regularly experiencing this kind of engrossing engagement (Csikszentmihalyi, 1997). Flow is specific to situations where you're doing something primarily for your own enjoyment or fulfillment. It's less about the application of strengths in diverse life areas and more about the personal joy and the intrinsic reward of the activity itself.

It suggests that engaging in personal activities that we love, not for any external reward but simply for the experience itself, is a key component of our overall happiness. Flow reminds us that sometimes, the path to well-being lies in those moments where we are completely one with what we're doing, finding joy and fulfillment in the process itself.

Having explored the concept of 'flow', where we experience deep immersion in enjoyable activities, we now turn our attention to how we can harness our brain's capabilities to enhance this and other aspects of our happiness. The upcoming "Rewiring for Happiness" section explores how we can benefit from our brain's neuroplasticity to grow a less negative and more consistently positive mindset.

# WB.6: Deep Dive - Positive Affect Brightens Your Days, While Optimism Lights Up Your Path Forward

Approximate reading time: 2 minutes

Positive affect is about feeling good in the moment, like when you're doing something you love, laughing with friends, or enjoying a great meal. These moments of joy add up, making our daily lives brighter. Studies have found that feeling these positive emotions regularly can lead to better health, stronger relationships, and even a longer life (Watson, Clark, & Tellegen, 1988; Steptoe, O'Donnell, Marmot, & Wardle, 2008). For example, people who often feel positive are likely to have a stronger immune system and better heart health (Pressman & Cohen, 2005).

Optimism, however, is more about how you see the future. It means expecting good things to happen. This outlook can make a big difference in how you handle challenges, like believing you'll ace a test or have a successful job interview. Being optimistic isn't just about hoping for the best; it's been shown to help people manage stress better, lower the risk of getting sick, and recover from illnesses faster (Chang, 2001; Peterson & Steen, 2002; Rasmussen & Wallio, 2008; Rasmussen, Scheier, & Greenhouse, 2009). Optimists use their positive view of the future to get through tough times more effectively.

While positive affect and optimism both play a role in making us happier, they do so in different ways. Positive affect makes our everyday experiences more enjoyable, immediately lifting our spirits. Optimism gives us a hopeful perspective that helps with our long-term emotional and physical well-being. Together, they help us build a life that's not only happy in the present but also hopeful for the future.

# WB.7: Deep Dive - What Defines Positive and Negative Experiences?

Approximate reading time: 2 minutes

Positive and good experiences are those that lead to happiness and benefit for both you and others. On the other hand, negative and bad experiences are those that cause suffering and harm. These definitions are intentionally focused on the practical outcome or consequences rather than being moralistic or religious.

## Positive Experiences

These are typically enjoyable but can also include experiences that are initially unpleasant but lead to beneficial outcomes.

- Studying hard for an exam: It might feel stressful at the time, but the sense of achievement and good grades bring long-term satisfaction.
- Exercising regularly: The initial physical effort and tiredness can be tough, but it leads to better health and mood.
- Honest conversations with friends or family: These might be uncomfortable but can strengthen relationships and foster trust.

## Negative Experiences

These usually feel unpleasant, but can also be experiences that feel good at the moment yet lead to negative consequences.

- Overindulging in partying or alcohol: It might be fun at the moment, but it can lead to health issues or affect academic performance.
- Spreading rumours or engaging in gossip: It might feel satisfying in the short term but can hurt others and damage your own reputation.
- Skipping classes for leisure activities: It feels good to have immediate fun, but it can negatively impact education and future opportunities.

In essence, positive experiences, even if they feel challenging at the time, ultimately lead to growth and well-being, while negative experiences, though potentially enjoyable in the short term, can result in detrimental outcomes.

# WB.8: Case Study - Karim Rewires His Brain for Happiness Using “Seek, Savour, Soak, Sustain”

Approximate reading time: 4 minutes

**Karim’s Backstory Recap:** Karim, a 22-year-old university music student, faces challenges with low self-esteem, rooted in a childhood where high achievements were expected but seldom praised. Despite his talent in piano and high academic achievements, Karim struggles to believe in his abilities and worth. His sensitivity to criticism overshadows his accomplishments, leaving him feeling inadequate. His classmates have encouraged him to acknowledge and embrace the positive aspects of his life, leading him to discover Dr. Hanson’s steps of Seek, Savour, Soak, and Sustain as a framework to improve his outlook and self-esteem.

## Karim’s Practice Each Session

1. **Seek:** Karim actively looks for positive moments in his day, like enjoying a good piece of music or receiving praise.
2. **Savour:** He consciously dwells on these moments, feeling them deeply for 20-30 seconds.
3. **Soak:** He allows these positive experiences to deeply affect his consciousness, absorbing the positive feelings.
4. **Sustain:** He commits to practicing these steps regularly in different situations.

## Karim’s Progress Over Time

**After One Week:** Karim starts noticing small, fleeting moments of joy, like the satisfaction after he played the piano for a classmate just for fun or a warm conversation with a friend. He tries to focus on these moments but finds it challenging to keep from brushing them off.

**After One Month:** Karim begins to see changes in his interactions. After a piano recital where he receives numerous compliments, he conscientiously takes time to savour the praise, feeling a genuine sense of accomplishment. He still struggles to internalise these positive moments fully, but he notices a slight shift in his mood and self-perception. He notices he is reducing the number of times he mentally kicks himself over small mistakes.

**After Six Months:** Karim’s friends start seeing a change in him. He’s more open to engaging in conversations and less likely to deflect compliments. He seems relaxed and even laughs out loud during games. His musical performance anxiety decreases, and he begins to participate more actively in group projects and social events.

**After One Year:** There is a noticeable transformation in Karim. He’s not only more confident in his musical abilities but also in his general interaction with peers. He no longer fixates on negative comments as he used to. His friends and professors see him as more outgoing and self-assured. Karim feels a significant improvement in his mood and overall enjoyment of life. Karim can honestly say he experiences happiness at unexpected moments when he is just in the moment.

Conclusion: Karim's journey is a testament to the power of consistent practice in rewiring the brain. By regularly practicing Seek, Savour, Soak, and Sustain, he gradually shifts his focus from negativity to positivity, significantly improving his self-esteem and social relationships. This case study illustrates how to rewire the brain to change the biological negativity bias to a happiness-seeking brain.

# WB.9: Deep Dive - More About Seligman's PERMA Model of Happiness

Approximate reading time: 5 minutes

## PERMA Model: Seligman's Model of Happiness

In the realm of positive psychology, Martin Seligman's PERMA model stands out as a comprehensive framework for understanding well-being and happiness. The PERMA model breaks down well-being into five key elements. Let's explore these elements:

- **Positive Emotion (P):** This element is about feeling good. It involves experiencing emotions like joy, gratitude, and contentment. Seligman suggests that a happy life is significantly marked by the regular presence of positive emotions. It's not just about the occasional high of happiness but about cultivating an overall positive outlook on life.
- **Engagement (E):** Engagement refers to being deeply involved in our activities. It's what happens when you're so absorbed in something that you lose track of time — a state often referred to as being "in the flow." This could happen when you're engaged in a hobby, working on a project you're passionate about, or even reading a captivating book. Engagement is about using your strengths and feeling invigorated by the activities you participate in.
- **Relationships (R):** Humans are social creatures, and relationships play a crucial role in our well-being. This part of the model emphasises the importance of connections with others, be it family, friends, or the wider community. Positive relationships provide support, love, and a sense of belonging, all of which are vital for our overall happiness.
- **Meaning (M):** Meaning is about having a sense of purpose or feeling that what you're doing is valuable and worthwhile. It's the feeling that your life and work contribute to something larger than yourself. This could stem from personal beliefs, being part of a community, or working towards goals that align with your values.
- **Accomplishment (A):** This element focuses on the pursuit and achievement of goals. It's about having ambitions and working towards them, regardless of whether they are big or small. Accomplishment gives a sense of success and mastery, whether it's finishing a difficult task, improving a skill, or achieving a personal milestone.

Seligman's PERMA model offers a well-rounded view of what contributes to human happiness. It moves beyond the traditional, narrow focus on momentary pleasure and highlights the importance of a diverse range of experiences and achievements for sustained well-being. This model is particularly useful in helping us understand that well-being is multi-dimensional and not solely dependent on one aspect of life. It's a tool for individuals and communities to assess their well-being and to find areas for enhancement and growth.

In summary, the PERMA model provides a framework not just to survive, but to truly thrive. It encourages a holistic approach to building a fulfilling life, combining emotional well-being with engagement, relationships, meaning, and accomplishment.

## Applications and Implications

- Educational Settings: PERMA has been applied in educational programs to improve student well-being, demonstrating its versatility and effectiveness across different age groups and cultural contexts (Kern et al., 2014; Morgan & Simmons, 2021).
- Workplace Well-being: The model has also been expanded to include factors like physical health and economic security, particularly in the context of work-related well-being (Donaldson et al., 2022).

These findings and applications demonstrate the comprehensive nature of the PERMA model in understanding and enhancing human well-being across various domains of life.

# WB.10: Case Study - Do-Over Story of Karim This Time Through His PERMA Journey

Approximate reading time: 8 minutes

## Karim's Backstory Recap

Karim, a gifted 22-year-old university music student, faces a significant challenge: despite his exceptional piano skills and high academic achievements, he struggles with deep-seated low self-esteem. This issue stems from his upbringing in a family where high achievements were expected but seldom acknowledged with praise, leading him to constantly focus on his perceived shortcomings.

In university, although well-liked and frequently complimented for his kindness and musical talents, Karim habitually fixates on any criticism or neutral feedback, aggravating his feelings of inadequacy. His consistent undermining of his accomplishments and talents has become a major concern for his friends and professors, who recognise his potential but see his self-esteem issues as a major barrier to his overall well-being and happiness. Karim has taken the Science of Well-being class at Yale with Dr. Laurie Santos and is inspired to try PERMA well-being practices as described by Seligman (2018).

### 1. Positive Emotion (P): The goal here is to identify and cherish positive emotions in daily life, enhancing overall happiness.

Every morning, Karim starts his day by writing down three things he's grateful for in his journal, focusing on even the smallest joys. Throughout the day, he makes a conscious effort to acknowledge and truly feel the positive emotions from compliments or enjoyable experiences. Additionally, Karim sets aside time each evening to reflect on these moments, reinforcing the positive emotions they bring.

- Initial Struggle: Karim finds it challenging to recognise genuine moments of joy, often feeling that his attempts are inauthentic.
- After One Week: He notices little change, with negativity still prevailing.
- After One Month: Small joys begin to emerge, like enjoying music, though Karim doubts their impact.
- After One Year: He appreciates life's small pleasures, realising true happiness often lies in these moments.

### 2. Engagement (E): This step focuses on immersing oneself in activities that lead to a state of flow, increasing life satisfaction.

Karim schedules dedicated piano practice sessions daily, focusing on pieces that both challenge him and align with his musical tastes. He also starts experimenting with composing his own music, which brings a new level of interest and engagement to his practice. To further deepen his engagement, Karim occasionally jams with other musicians.

- Initial Struggle: Karim's piano practice is marred by distractions, causing frustration and lack of focus.
- After One Week: Frustrated, he contemplates quitting, in the belief that he is far from achieving true engagement.
- After One Month: Karim starts experiencing moments of flow, connecting with the music.
- After One Year: His practice sessions become deeply fulfilling, a source of significant engagement and joy.

### **3. Relationships (R): To enhance his sense of belonging and well-being, Karim takes a bold step towards building strong, supportive relationships.**

Karim accepts an invitation from a classmate in his creative writing course to join their Dungeons and Dragons (D&D) game. Initially unfamiliar with the game and somewhat shy, he finds the fantasy role-playing concept intriguing yet challenging. Despite his initial hesitation and unfamiliarity with the game, Karim commits to attending the sessions, recognising an opportunity to connect with his peers in a new and creative environment.

- Initial Struggle: Karim initially feels awkward and shy in the D&D group, and struggles to fit in.
- After One Week: He begins to relax a bit more during the games, although he still battles self-doubt.
- After One Month: Karim starts to feel more at ease, actively participating and enjoying the company of his fellow players.
- After One Year: Karim has developed strong friendships within the group, and feels a sense of camaraderie and support that extends beyond the game sessions.

### **4. Meaning (M): Finding purpose and meaning in life, contributing to something larger than oneself.**

Seeking to contribute to something larger than himself, Karim decides to volunteer at the local food bank. He immerses himself in various tasks, from organising food drives to directly assisting in distributing food to those in need. Karim takes the time to interact with the recipients, listens to their stories, and understands the impact of his help on their lives.

- Initial Struggle: At first, Karim feels uncertain and disconnected from the work, questioning whether his efforts are truly making a difference.
- After One Week: He continues to volunteer, but still feels like he's just going through the motions, unsure of the real impact of his contribution.
- After One Month: Karim starts receiving heartfelt thanks from those he's helped, and the staff at the food bank express their appreciation for his dedication. This positive feedback begins to affirm the value of his efforts.
- After One Year: Karim not only sees the tangible results of his volunteer work but also feels deeply connected to the mission of the food bank. He understands that his consistent effort has been a valuable part of the community support system, and enjoys a profound sense of purpose and fulfillment.

## 5. Accomplishment (A): Accomplishment (A): Pursuing goals and celebrating achievements, big or small, to build a sense of mastery and success.

Karim understands the importance of setting and achieving goals to build a sense of mastery and success. To reach his objective of winning a scholarship for a master's degree in music, he breaks down this overarching goal into manageable, incremental milestones. Each month, Karim focuses on mastering specific piano techniques and pieces, creating a structured plan to build his skills progressively.

He maintains a meticulous log of his practice sessions, recording not just the duration but also the specific aspects of his playing that he focuses on each day. This log serves as a tangible record of his growth and a tool for self-reflection. Karim also schedules regular meetings with his music professors to receive feedback on his performance. He treats each piece of advice as crucial, methodically working on the suggested areas of improvement and viewing them as essential steps towards his larger goal.

- **Initial Struggle:** Karim initially feels overwhelmed by the magnitude of his ambition. His slow progress in the first few weeks leads him to question the feasibility of his goal, causing moments of doubt and demotivation.
- **After One Week:** The feeling of not making significant progress continues to weigh on him, and he struggles to see the value in his small daily accomplishments.
- **After One Month:** Karim starts to see the fruits of his consistent effort. He acknowledges and celebrates mastering a challenging piece, which boosts his confidence.
- **After One Year:** Karim's dedication and systematic approach pay off. He not only notices significant improvements in his piano skills but also develops a deeper understanding and appreciation of music. His achievements, big and small, are now sources of immense pride, and he confidently auditions for the scholarship, feeling well-prepared and hopeful.

## Conclusion

Throughout his journey, Karim faces realistic challenges in each aspect of the PERMA well-being model. Despite setbacks, his consistent efforts lead to a noticeable improvement in his well-being, illustrating how perseverance in practicing the PERMA model can effectively enhance happiness and life satisfaction.

# WB.11: Deep Dive - Uplifts and Hassles: A Balancing Act

Approximate reading time: 4 minutes

Uplifts are positive experiences that can counterbalance the negative effects of hassles. These include experiences of accomplishment, positive interactions with colleagues, recognition, and support from management.

Hassles refer to the daily irritations, frustrations, and stressful demands that employees encounter. These can range from minor annoyances like paperwork and routine tasks to more significant stressors such as conflicts with colleagues or overwhelming workloads.

Uplifts, such as achievements, positive interactions with colleagues, recognition, and support from management, act as a counterbalance to the daily hassles we face at work, ranging from minor annoyances like paperwork to significant stressors such as conflicts with colleagues or overwhelming workloads. In the digital age, “Cyber hassles”, especially those related to social media, have emerged as new stressors. Research has shown that modern communication methods can add to our everyday stressors and impact our well-being. Results include physical effects like loss of sleep due to increased physiological arousal from ruminating about online interactions (van der Schuur, Baumgartner, & Sumter, 2018). Furthermore, the frequency of daily hassles has been identified as a better predictor of both physical and psychological health than major life events; studies highlight daily hassles, including digital interactions, that are more strongly associated with physical health problems (DeLongis, Coyne, Dakof, Folkman, & Lazarus, 1982). Additionally, daily minor hassles, especially interpersonal conflicts, often lead to negative and distressed mood states (Bolger, DeLongis, Kessler, & Schilling, 1989). Interestingly, the sequence in which we reflect on uplifts and hassles matters; focusing on positive experiences before negative ones can provide psychological benefits, helping maintain a more balanced mood (Maybery et al., 2002). This suggests that emphasising positive interactions and support can influence how we perceive and handle daily stressors, including those encountered in digital spaces.

## What Uplifts and Hassles affect our well-being? Research findings

### Uplifts

- **Physical Activity:** Engaging in daily physical activity, including low-intensity and cardiovascular fitness activities, promotes mental and physical well-being (Epstein et al., 2001).
- **Positive Youth Development:** Being motivated by challenges and supported by caring adults energizes active engagement in development, contributing to a sense of accomplishment and well-being (Larson, 2006).
- **Health Behaviour Changes:** Participating in online health makeover programs can lead to positive changes in health behaviours, such as abstaining from smoking, which enhance personal health and satisfaction (An et al.,

2013).

- **Co-Creative Policymaking:** Involvement in co-creative urban policy making allows individuals to contribute to community development, enhances their skills and knowledge, and brings a sense of achievement. This is particularly applicable in the housing domain (Lorenz, 2023).
- **Supportive Adult-Youth Relationships:** Benefiting from adult-youth relationships based on discipline, tradition, and understanding of youths' worlds contributes to emotional uplift and a sense of belonging (Starr, 2003).
- **Social Connections:** Building and maintaining strong social connections with peers enhances emotional well-being and provides a sense of belonging (Ong et al., 2022).
- **Engagement in Creative Activities:** Participating in creative activities like art, music, and writing fosters self-expression and mental relaxation, offering a break from daily stressors (Larson, 2006).
- **Access to Technology and Information:** Utilising technology for learning, communication, and access to a wide range of information contributes to personal growth and development (Starr, 2003).
- **Community Involvement:** Being involved in community service or volunteer work instills a sense of purpose and contributes to societal well-being (Lorenz, 2023).
- **Environmental Engagement:** Engaging with nature and outdoor activities promotes physical health and mental well-being, offering a break from the urban hustle (Wang, Orleans, & Gortmaker, 2012).

# WB.12: Deep Dive - Everyday Uplifts and Hassles: How Collectivistic and Individualistic Cultures Experience Life's Little Moments

Approximate reading time: 8 minutes

# UPLIFTS: Collective compared with individualistic cultures

Table SUP WB.2. Uplifts: collective compared with individualistic cultures

	Collective	Individualistic	References
Spending time with family	Emphasises group cohesiveness, family values, and in-group goals. Family time is seen as fulfilling communal obligations and strengthening group bonds. For example, when you attend a large family reunion, this gathering isn't just enjoyable; it's a way to strengthen your bond with the family and fulfill your role in the larger group.	Focuses on personal autonomy and individual enjoyment. Family time may be valued but balanced with personal interests and autonomy. For example, if you choose to spend an evening with your family, this is often balanced with your personal interests, valuing both family time and your own autonomy.	Fitzpatrick et al., 2006; Triandis, 2001
Achieving a personal goal	Achievements are often viewed in the context of contributing to the group's success or honour, rather than purely individual success. For example, if you win a scholarship, this achievement is seen as a source of pride for your entire family or community, not just a personal success.	Personal achievements are a source of individual pride and self-fulfilment, emphasising personal autonomy and self-expression. For example, when you get a promotion at work, this is a moment of personal pride and achievement, focusing on your individual capabilities and success.	Kim et al., 2006; Triandis, 2001
Receiving praise at work	Praise might be interpreted as a reflection of the group's success and a contribution to collective harmony. For example, when your team completes a project successfully and you receive praise from your boss, this praise is a reflection of the entire team's effort and success, not just your own.	Praise is seen as recognition of individual effort and competence, enhancing personal self-esteem. For example, if you're singled out for your exceptional work on a project, this praise boosts your personal self-esteem and is seen as a recognition of your individual effort.	Naz et al., 2021; Triandis, 2001
Having a day to relax	Relaxation might be seen in the context of restoring oneself for the benefit of better contributing to group tasks and responsibilities. For example, if you take a day off to relax, this relaxation is seen as a way to rejuvenate yourself so you can better contribute to your family or community tasks later.	Emphasises personal enjoyment and self-care, with relaxation seen as a deserved break for individual rejuvenation. For example, when you take a day for yourself to do whatever you like, this is seen as a well-deserved personal break for self-care and enjoyment.	Strand et al., 2015; Triandis, 2001
Learning a new skill	Learning is often viewed as a way to improve one's ability to contribute to the group or community. For example, when you learn a new language, this skill is often viewed as a way to improve communication and understanding within your community, not just for personal benefit.	Focuses on personal growth and self-improvement, with learning new skills seen as a way to enhance individual capabilities. For example, if you decide to take up a new hobby like painting, this is seen as a form of personal growth and self-improvement.	Watkins et al., 1998; Triandis, 2001

# HASSLES: Collective compared with individualistic cultures

Table SUP WB.3. Hassles: collective compared with individualistic cultures

	Collective	Individualistic	References
Traffic jams	May be more accepting of traffic as a shared communal challenge, emphasising patience and group harmony. For example, when you're stuck in a traffic jam, you might be more patient, seeing it as a shared challenge that everyone is facing together.	Likely to view traffic jams as a personal inconvenience, emphasising individual time and efficiency. For example, when you're caught in traffic, you might feel frustrated because it's seen as a personal inconvenience, disrupting your individual schedule.	Fjneman et al., 1996; Triandis, 2001
Work deadlines	Deadlines are seen in the context of contributing to the group's success, with a focus on collaborative efforts. For example, when facing a tight deadline at work, the focus is on how meeting this deadline will benefit the whole team or company, not just your personal achievement.	Emphasises personal responsibility and achievement, with deadlines seen as a challenge to individual efficiency and capability. For example, when you're racing against a deadline, it's seen as a test of your personal efficiency and capability, with a focus on individual achievement.	Kim et al., 2006; Triandis, 2001
Financial worries	Financial issues might be viewed as a shared family or community concern, with a focus on collective solutions. For example, if you're experiencing financial difficulties, this issue is often seen as a concern for the whole family or community, with everyone working together to find a solution.	Seen as a personal challenge, emphasising individual responsibility and autonomy in financial management. For example, if you're worried about money, this is often viewed as a personal challenge, with a focus on your individual responsibility to manage your finances.	Triandis et al., 1988; Triandis, 2001
Health issues	Health concerns are often seen in the context of their impact on the family and community, with a focus on communal support. For example, if you're dealing with a health problem, the impact on your family and community is often considered just as important as your personal well-being.	Focuses on personal impact and autonomy in health decisions, emphasising individual well-being. For example, when dealing with a health issue, the focus is on how it affects you personally, with an emphasis on your individual decision-making and well-being.	Arends-Tóth & Vijver, 2009; Triandis, 2001
Misunderstandings with friends	Emphasises maintaining harmony and group cohesion, often prioritising group relationships over individual disagreements. For example, if you have a disagreement with a friend, the focus is on maintaining harmony and the overall relationship, rather than just resolving your individual differences.	Focuses on personal expression and individual relationships, with a greater emphasis on resolving personal differences. For example, if you have a falling out with a friend, the emphasis is on expressing your personal viewpoint and resolving the issue based on individual perspectives.	Triandis, 2001; Vikan, 2017

# WB.13: Deep Dive - We Need to Use a Cultural Lens: Happiness and Stress

Approximate reading time: 10 minutes

When we study happiness and stress in psychology, it's important to think about the role of culture. We will begin by exploring how different cultures, especially those focused on community (collectivistic) and those that value individuality (individualistic), have different understanding and experiences of happiness and stress. By keeping cultural perspectives in mind, we gain a more complete and accurate understanding of happiness and stress, grounded in evidence-based research, that respects and reflects the diversity of human experience.

In both collectivistic and individualistic cultures, the sources and perceptions of happiness and stress significantly differ, reflecting their core values. Collectivistic cultures find happiness in social engagement and community activities, where prosocial behavior and cooperation are essential for communal well-being, emphasising social harmony and group goals (Triandis, 2001; Arends-Tóth & Vijver, 2009; Shin et al., 2021). Stress in these cultures often arises from disruptions in social harmony, such as family conflicts or community issues (Chiu & Kosinski, 1995; Ben-Ari & Lavee, 2004; Sikora, 2020).

Conversely, individualistic cultures associate happiness with personal achievements and self-expression, where personal success and self-esteem are paramount (Uchida, Kitayama, & Norasakkunkit, 2004; Uchida & Ogihara, 2012). However, this focus on the self can sometimes paradoxically reduce overall well-being, as the intense pursuit of personal happiness may lead to feelings of isolation or dissatisfaction (Ford et al., 2015; Boehm, Lyubomirsky, & Sheldon, 2011). Stress in these societies is frequently linked to an individual's personal challenges, such as not meeting their career goals or feeling they have underachieved (Cheng & Kwan, 2008; Chiao et al., 2009; Knyazev et al., 2017). This contrast underscores how cultural values shape the experiences and management of happiness and stress, highlighting the importance of considering cultural contexts in psychological research and practice.

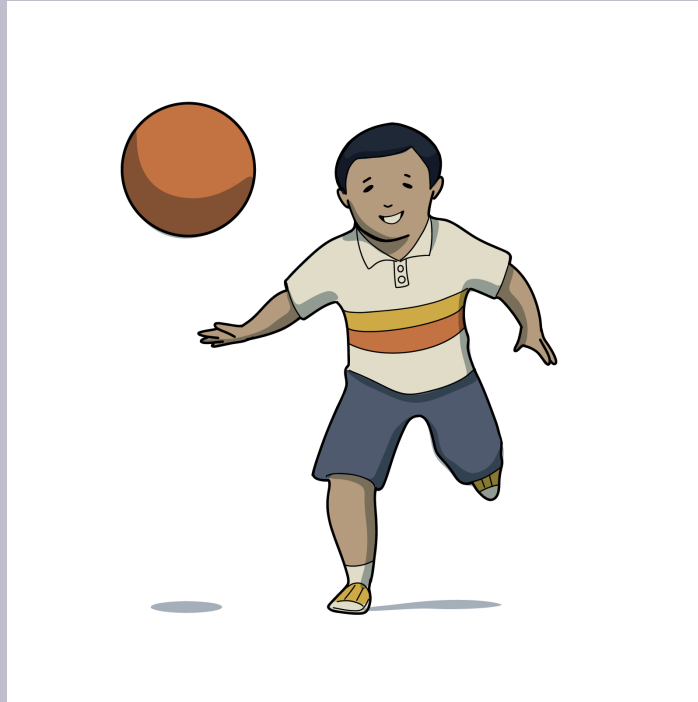
Psychological researchers have validated the differences between collectivistic and individualistic cultures in terms of values, behaviours, and activities. Table SUP WB.4 illustrates different approaches to life experiences that are characteristic of these two distinct cultural perspectives.

Table SUP WB.4. Different approaches to life between collectivistic and individualistic cultures

	Collectivistic Cultures	Individualistic Cultures	References
Perceived Obligation and Behavioural Intention	Collectivist societies have a favourable attitude towards sharing others' burdens and troubles, reflecting a communal sense of responsibility. For example, in a collectivist society, if someone in the community faces hardship, others will feel a strong sense of duty to help, for example, neighbours coming together to support a family after a house fire.	Individualist societies show a strong link between personal obligation and behavioural intention, emphasizing personal responsibility and choice. For example, in an individualist society, a person might decide to volunteer at a shelter based on personal values, seeing it as a personal choice rather than a communal obligation.	(Hui, 1988)
Activities Leading to Happiness	In collectivistic cultures, happiness is derived from socially engaged activities, group-oriented success, and prosocial interactions. For example, in a collectivist culture, the success of a group projects at work or a family reunion might be sources of happiness.	Activities that lead to happiness in individualistic cultures focus on individual success. For example, in an individualistic culture, personal achievements like getting a degree or winning a competition are seen as key happiness drivers.	(Shin et al., 2021; Suh & Oishi, 2002)
Stress Interpretation and Handling	Collectivist societies like China and Japan handle work-related stress differently, emphasising communal values and collective coping mechanisms. For example, in a collectivist workplace in Japan, employees might deal with stress by organizing group activities or discussions to find solutions together.	Individualist societies interpret and handle work-related stress based on personal values and attitudes, focusing on individual coping strategies. For example, in an individualist setting, an American worker might handle stress by seeking personal counseling or focusing on individual stress-relief activities like jogging or meditation.	(Chiu & Kosinski, 1995)
Values	Collectivistic cultures prioritise values such as social harmony, shared goals, and humanitarianism, emphasising group over individual goals. For example, a collectivist culture might prioritise family gatherings and community events, emphasising the importance of being together and working towards common goals.	In individualistic cultures, values centre on self-reliance, personal achievement, self-esteem, and self-consistency. For example, in an individualistic culture, a person might focus on personal goals like getting a promotion at work or achieving a personal best in a marathon, emphasising self-improvement.	(Lu, Gilmour, & Kao, 2001; Suh & Oishi, 2002; Triandis, 2001)
Behaviors	Collectivistic cultures emphasise relationship harmony and prefer low arousal states for happiness, adopting a context-focused approach to life. For example, in a collectivist culture, people might prefer a quiet family dinner or a community festival as sources of happiness, focusing on relationships and context.	Individualistic cultures focus on personal goals and prefer high arousal states for happiness, with a content-focused approach to life. For example, in an individualistic culture, people might seek happiness in personal achievements like buying a dream car or traveling solo, focusing on personal fulfillment.	(Triandis, 2004; Uchida & Ogihara, 2012)

Achievement	Collectivistic cultures place less emphasis on personal achievement, focusing more on group success. For example, in a collectivist culture, a community working together to build a park would be seen as an achievement, valuing the group's success over individual contributions.	Personal achievement and success are key to happiness in individualistic cultures. For example, in an individualistic culture, personal achievements like starting a successful business or writing a best-selling book are highly valued.	(Suh & Oishi, 2002; Tafarodi & Smith, 2001)
Social Harmony	Social harmony and group well-being are highly emphasised in collectivistic cultures. For example, in a collectivist society, maintaining peace and agreement within a family or community group, even if it means compromising personal desires, is highly valued.	Individualistic cultures place less emphasis on social harmony, focusing more on individual success. For example, in an individualistic society, personal beliefs and goals might be prioritised, even if they conflict with the group's views, placing less emphasis on overall harmony.	(Uchida & Kitayama, 2009)
Transcendence	In collectivistic cultures, happiness is often seen in transcendental reappraisal and social harmony. For example, in a collectivist culture, finding happiness might involve community rituals or traditions that emphasise social harmony and a broader understanding of life.	Transcendental reappraisal has less focus placed on it in individualistic cultures. For example, in an individualistic culture, personal spiritual or philosophical journeys that focus on individual understanding and fulfillment might be more common.	(Uchida & Kitayama, 2009)

The "pursuit" of happiness?



*Figure SUP WB.4. A child chases a ball. A child happily chases after a ball but may never catch it. Is happiness something you should chase after, perhaps never quite catching it?*

The term 'pursuit of happiness' suggests how some people with individualistic values think about happiness. They can often believe that happiness is something they need to chase after or work hard to get. They think being free, showing who they really are, and achieving their goals will make them happy. But this idea also means that happiness is something you have to chase, and you might not always catch it.

In other parts of the world, like in Asia, Africa, Latin America and in Indigenous cultures, people see happiness differently. For these collectivistic cultures, happiness isn't really about chasing after things. Instead, it's about how people feel about their life as it is. They find happiness in living in the moment and being part of their community. It's not about doing specific things to be happy; it's more about feeling content with where you are and who you're with.

## A Blending of Approaches and Values: Happiness and Stress

When people move between cultures or grow up with two different cultural backgrounds, they often face unique challenges related to happiness and stress. For instance, someone might move from a country where community and family are everything, to a place where individual success and independence are more valued. This shift can be stressful as they try to fit into the new culture while still holding onto their original values. Similarly, children from mixed-culture families might get mixed messages about what's important in life. One part of the family might emphasise working together and respecting elders, while the other focuses on making your own choices and

achieving personal goals. This can make it tricky for them to figure out where they fit in, affecting their sense of happiness and how they handle stress. This blending of cultures shows how our backgrounds influence our feelings and experiences in complex ways.

## Reassessing Happiness and Stress: A Culture-informed Approach

Understanding happiness and stress requires considering the unique insights from both individualistic and collectivistic cultures. Psychology has often leaned towards studying individualistic societies, sometimes missing the full picture by not equally considering collectivistic viewpoints. This oversight can lead to a one-sided understanding of these complex emotions. Recognizing the value of diverse cultural perspectives is key to a more complete and inclusive study of psychological well-being. Embracing this broader view ensures our research reflects the rich variety of human experiences, as highlighted by Triandis and colleagues (1988).

The cultural context is not just a background factor but a pivotal element in our understanding of happiness and stress. The distinction between collectivistic and individualistic orientations is more than a mere classification; it fundamentally shapes the experiences and strategies related to well-being. Recognizing this, we move towards a more inclusive and accurate understanding of psychological health, one that respects the full spectrum of human diversity in experiencing and managing happiness and stress.

## Image Attributions

Figure SUP WB.4. A child chases a ball by Rachel Lu is licensed under a [CC BY-NC-SA license](#).

# WB.14: Case Study - Parts 1 & 2: Ti and Carli

Approximate reading time: 3 minutes



Figure SUP WB.5. Moving into the university residence.

## Part 1 – Stimulus-Based Analysis with Ti and Carli Going to Live in University Residence

- **Ti's Experience with Stimulus-Based Stress:** Ti perceives the move as overwhelming, triggering significant stress. They worry about leaving a familiar environment, adjusting to the fast-paced life of a university, and the challenges of living independently for the first time. In this case, the move acts as a stimulus that triggers a significant stress reaction in Ti, characterized by feelings of homesickness, anxiety, and concerns about managing new responsibilities.
- **Carli's Experience with Stimulus-Based Stress:** Contrasting with Ti, Carli views the move as an exciting opportunity for growth. They feel anticipation and optimism, demonstrating that the same situation – moving to a university residence – can be perceived very differently. For Carli, this is not a source of stress but an exciting new chapter, as they look forward to new experiences and independence.

This example illustrates that while the stimulus-based definition focuses on external events as primary stressors, it fails to account for individual interpretations and reactions to these events. The same stimulus – moving to university residence – results in different stress levels for Ti and Carli, indicating that external events alone cannot fully define or predict stress.

## Part 2 – Response-based Analysis with Ti and Carli Going to Live in University Residence

- **Ti's Experience with Response-Based Stress:** Ti experiences both emotional and physical symptoms of stress, such as an increased heart rate and restlessness, when thinking about the move. These symptoms align with the response-based definition, as they are physiological responses to the perceived stress of moving.
- **Carli's Experience with Response-Based Stress:** Carli, though excited, also experiences physical reactions like a burst of energy and heightened alertness. According to Selye (1976), stress responses can occur even in reaction to positive events. In Carli's case, their body's response to the positive challenge of embracing new opportunities demonstrates that stress is not always linked to negative experiences.

These examples show that while the response-based definition emphasises physiological reactions to situations, these responses are not exclusively linked to negative or stressful situations. Both Ti's and Carli's experiences illustrate that physiological reactions can occur in a variety of emotional states, including positive anticipation.

### Image Attributions

Figure SUP WB.5. Moving into the university residence by Rachel Lu is licensed under a [CC BY-NC-SA license](#).

# WB.15: Case Study - Lazarus Model Analysis Ti and Carli

Approximate reading time: 3 minutes

## Part 3 – Lazarus Model Analysis with Ti and Carli

To illustrate the Lazarus model of stress appraisal, let's revisit the experiences of Ti and Carli as they move to university residence.

### Ti's Experience (Lazarus Model)

- **Primary Appraisal:** Ti views the move to university residence as a significant threat to their well-being. They are concerned about leaving their familiar environment, adjusting to a new social setting, and managing academic responsibilities in an unknown place. For Ti, the move represents potential harm, loss of comfort, and a fear of not fitting in.
- **Secondary Appraisal:** Ti feels uncertain about their ability to adapt to this new life. They worry about making new friends, keeping up with academic demands, and living independently for the first time. This perception of limited coping resources and strategies amplifies their stress, leading them to view the move as more overwhelming and threatening.

### Carli's Experience (Lazarus Model)

- **Primary Appraisal:** Carli, facing the same situation, appraises the move as a challenge and an opportunity for growth. They are excited about meeting new people, exploring a new environment, and gaining independence. For them, the move is associated with positive outcomes and personal development, rather than harm or loss.
- **Secondary Appraisal:** Carli assesses their coping abilities as strong. They feel confident in their social skills, ability to adapt, and manage their studies. This belief in their coping abilities leads them to view the move as a manageable and even an exciting challenge, reducing any potential stress.

In Lazarus' model, the stress experience is not solely determined by the external event (moving to university residence) but by how Ti and Carli appraise this event. Ti's appraisal of the move as a threat with limited coping resources leads to higher stress levels. In contrast, Carli's appraisal of the move as a challenge, coupled with a belief in their coping abilities, results in lower stress levels or even positive anticipation.

## Conclusion

This model highlights the subjective nature of stress. It shows that stress is a dynamic process, where the individual's evaluation of both the situation and their ability to cope plays a crucial role. Ti and Carli's differing appraisals and perceived coping resources lead to their distinct emotional and physiological responses to the same external event. This understanding underscores the importance of perception and personal evaluation in the experience of stress.

# WB.16: Deep Dive - Two Examples of Understanding General Adaptation Syndrome

Approximate reading time: 4 minutes

## Example 1: Hiker Encountering a Dog

- **Alarm Reaction:** Imagine you are back hiking in the forest and suddenly encounter that large, barking dog. Your immediate reaction is a surge of energy and alertness, similar to the fight-or-flight response. You freeze, your heart races, and you quickly assess whether to confront the dog or flee.
- **Stage of Resistance:** If the dog continues to be a threat or follows you, you enter the stage of resistance. You might start taking measures like looking for a stick for defence, or planning an escape route. Your body remains alert and ready to respond, but the intense fear from the initial encounter has subsided into a cautious vigilance.
- **Stage of Exhaustion:** If the menacing dog follows you for hours in the woods, you may reach the stage of exhaustion. The ongoing stress of dealing with the dog could lead to your feeling constantly anxious, fatigued, and unable to enjoy your hike. This stage illustrates how prolonged exposure to a stressor can significantly impact your physical and mental well-being.

## Example 2: Leaking Roof

- **Alarm Reaction:** You are sleeping in bed when you are awakened by the feeling of water dripping on your face. When you first notice the leak in your ceiling, you experience a burst of energy and alertness. This immediate reaction prompts you to rush for a ladder and find the source of the leak in the roof.
- **Stage of Resistance:** As the leak continues over a couple of days, while you wait for someone to repair the leak, you adapt to the situation, managing it with temporary solutions like moving furniture and strategically placing buckets to catch the raindrops. Your body remains alert, but less intensely than during your initial reaction.
- **Stage of Exhaustion:** A week has passed, and you're still awaiting the roof repair team. The routine of constantly monitoring and emptying the buckets brimming with rainwater has become exhausting. The relentless drip, drip, drip of rainwater seeping through your bedroom ceiling and into the buckets is driving you nuts! Your resilience is wearing thin. Your prolonged stress causes you to feel irritable and fatigued, your sleep is disturbed by the slightest sounds, and your concentration during the day is getting worse. This stress is not just an annoyance, it's wrecking your physical well-being; you have headaches and you feel increasingly anxious and unable to relax even when the rain stops. The situation underscores how ongoing stress can lead to significant decline of physical and mental health, affecting your daily life and overall well-being. When will the roof repair folks arrive?

# WB.17: Deep Dive - The Rat Park Experiments Explained

Approximate reading time: 3 minutes

Content Disclosure: Please be advised that the following section discusses historical research methods that involved the use of animals in ways that would be considered unethical by today's standards. This includes descriptions of experiments conducted by Hans Selye on rats, which involved exposure to severe stressors leading to physical injury and distress. While these studies contributed significantly to our understanding of stress responses, it is important to acknowledge the ethical concerns surrounding the treatment of animals in such research. We present this information for educational purposes, recognising the importance of ethical considerations in scientific research.

In psychology, historically, the study of addiction used to focus mainly on how individuals interact with drugs. People who used drugs were seen as weak, unlucky, or lacking will-power. In the late 1970s, however, Bruce Alexander's Rat Park experiments changed this view. These experiments showed that the environment plays a crucial role in drug addiction (Alexander, Coombs, & Hadaway, 1978).

Alexander's research involved two groups of rats. One group lived in 'Rat Park,' a large, engaging space with activities and chances to socialize. The other group lived in small, isolated cages, under extreme environmental conditions (note: the isolated cages used in these experiments, which caused extreme confinement and lack of social interaction, are now seen as unethical in animal research). Both groups could choose between water with morphine and plain water. The findings were eye-opening. The isolated rats drank more morphine water, while the Rat Park rats mostly chose plain water (Davies, 2009; Gage & Sumnall, 2018).

These results indicate that stressful environments and poor living conditions might lead to a higher risk of drug addiction. On the other hand, a stimulating and social environment seemed to reduce the need for drugs. This research is crucial to an understanding of addiction. It shows us that a stressful living environment and social setting can drastically undermine someone's efforts to reduce drug use. (Alexander, Beyerstein, Hadaway, & Coombs, 1981; Jordan & Butler, 2011; Khoo, 2020).

The Rat Park experiments highlight the complexity of addiction and the need for a comprehensive approach to research and treatment. They challenge the idea that addiction is only about drug exposure and show that environmental and social changes can help prevent and treat addiction. These experiments also reveal the historically unethical treatment of animals in past psychological research.

While environmental factors like those seen in the Rat Park Experiments can significantly impact stress levels, the effects of acute traumatic events present a different dimension of stress, often with more immediate and intense consequences.

# WB.18: Deep Dive - Graphic Narrative Story: Rat Park by Stuart McMillan

Approximate reading time: 5 minutes

“A classic experiment into drug addiction science. Would rats choose to take drugs if given a stimulating environment and social company?”

This is [Stuart McMillan's fascinating backstory](#) for creating the Rat Park comic and meeting Professor Bruce Alexander, one of the original researchers.

# WB.19: Deep Dive - What Stresses Us Out?

Approximate reading time: 16 minutes

Stress affects us all, stemming from various sources that challenge our mental and physical well-being. At its core, stress is our body's response to demands or threats, whether they're immediate and short-lived or persistent over time. Cohen, Janicki-Deverts, & Miller (2007) differentiate between chronic stressors, such as ongoing financial worries or long-term caregiving, and acute stressors, like experiencing an injury or facing a sudden job loss. This distinction is crucial for understanding how different types of stress impact our health and daily functioning.

Recognizing the sources of stress is the first step toward managing its effects. Everyday hassles, life changes, and environmental factors can all serve as stressors. By identifying these triggers, individuals can develop strategies to cope with stress, such as seeking social support, practicing relaxation techniques, or making lifestyle changes. Understanding stress in this comprehensive manner allows us to see it not just as a personal issue but as a complex interplay between individual experiences and broader societal factors.

## Environmental Stressors: The Rat Park Experiments, Addiction, and the Power of Environment

The Rat Park Experiments conducted by Alexander et al. (1978) fundamentally changed our understanding of addiction. These experiments revealed that rats housed in a stimulating environment with plenty of space and opportunities for social interaction were less likely to consume morphine-laced water compared to those in isolated, cramped conditions. This groundbreaking study suggested that addiction is heavily influenced by one's environment and social context, challenging the notion that addiction is solely a result of individual weakness or a biological predisposition to drugs.

Watch this video: [Addiction an the Rat Park Experiments – Short Version \(1.5 minutes\)](#)



*One or more interactive elements has been excluded from this version of the text. You can view them online here:*  
<https://opentextbc.ca/psychologymtdisupplement/?p=334#oembed-1>

“Addiction an the Rat Park Experiments – Short Version” video by MinuteVideos Portfolio is licensed under the Standard YouTube licence.

[Supplement WB.17: Deep Dive – The Rat Park Experiments Explained \[New Tab\]](#)

[Supplement WB.18: Deep Dive – Graphic Narrative Story: Rat Park by Stuart McMillan \[New Tab\]](#)

## Traumatic Events

Traumatic events, ranging from personal assaults to natural disasters, can lead to significant stress and, in severe cases, post-traumatic stress disorder (PTSD). These experiences, unfortunately, are common, with their impact varying significantly across different demographics. Research by Hatch & Dohrenwend (2007) indicates that men, BIPOC, and individuals from lower socioeconomic backgrounds are more likely to report experiencing traumatic events. The consequences of such experiences can be profound, affecting individuals' mental health and leading to conditions like anxiety, depression, and PTSD.

Understanding the impact of trauma is essential for providing effective support and interventions. It's important to recognise that trauma can affect anyone and that its effects can be long-lasting. Support for those who have experienced trauma may include therapy, medication, and community support programs. Recognising the widespread impact of traumatic events on mental health is a critical step in addressing the needs of those affected, along with fostering resilience in the face of adversity.

[Supplement WB.24: Deep Dive – Traumatic Events: Research findings \[New Tab\]](#)

## Catastrophic Trauma

The Indian Residential Schools (IRS) system in Canada has left a deep and enduring impact on Indigenous communities, marking a dark chapter in the nation's history. These institutions, which operated from the late 19th century until the late 20th century, were part of a policy of forced assimilation, aiming to integrate Indigenous children into Euro-Canadian culture. The schools were characterised by inhumane conditions, including physical and emotional abuse, neglect, and efforts to erase Indigenous languages and cultures (Truth and Reconciliation Commission [TRC], 2015). The trauma experienced by survivors of these schools, and the subsequent generational impacts, are profound, affecting the mental and physical health of Indigenous peoples across Canada.

The concept of Historical Trauma Response, developed by Maria Yellow Horse Brave Heart, provides a framework for understanding the cumulative emotional and psychological wounds inflicted across generations by such catastrophic events. This trauma is not confined to the individuals who directly experienced the schools but extends to their descendants, manifesting in various health disparities and social challenges. Addressing this legacy requires culturally sensitive and trauma-informed approaches that acknowledge the deep-seated pain and resilience of Indigenous communities. Healing is a complex process that involves reconnecting with traditional cultures, languages, and practices, as well as ensuring that survivors and their families have access to appropriate support services.

## Life Changes as Stressors

Life changes, whether perceived as positive or negative, can act as significant stressors. The Social Readjustment Rating Scale (SRRS), developed by Holmes and Rahe in 1967, highlights how events like marriage, divorce, job loss, or moving to a new home require an individual to make substantial adjustments, thereby inducing stress. These life changes are assigned “life change units” (LCUs) to quantify their potential impact on a person’s health. Interestingly, the scale suggests that not only negative events but also positive ones, such as promotions or the birth of a child, can produce stress due to the changes they bring to one’s life.

Table SUP WB.5. Some stressors on the Social Readjustment Rating Scale (SRRS)

Life event	Life change units
Death of a close family member	63
Personal injury or illness	53
Dismissal from work	47
Change in financial state	38
Change to different line of work	36
Outstanding personal achievement	28
Beginning or ending school	26
Change in living conditions	25
Change in working hours or conditions	20
Change in residence	20
Change in schools	20
Change in social activities	19
Change in sleeping habits	16
Change in eating habits	15
Minor violation of the law	11

Table adapted from Holmes & Rahe (1967).

The Social Readjustment Rating Scale (SRRS) provides researchers with a simple, easy-to-administer way of assessing the amount of stress in people’s lives, and it has been used in hundreds of studies (Thoits, 2010). Despite its widespread use, the scale has been subject to criticism.

Understanding that life changes can be stressful regardless of their nature underscores the importance of developing coping mechanisms and support systems. It also highlights the subjective nature of stress, as individuals may perceive and react to the same event differently based on their personal resources, past experiences, and social support networks. Recognising and addressing the stress associated with life changes is crucial for maintaining mental health and well-being. This awareness can empower individuals to seek help when needed and to approach life's transitions with strategies that promote resilience and adaptation.

[Supplement WB.21: Deep Dive – Life Changes as Stressors: Research findings \[New Tab\]](#)

## Occupation-Related Stressors

Occupational stressors encompass a range of job-related factors that can lead to psychological and physical strain. High-stress professions often involve direct exposure to danger, such as in the case of police officers and firefighters, who face physical risks and the pressure of making life-and-death decisions on a daily basis (Sulsky & Smith, 2005). However, stress is not limited to those in hazardous roles. Social workers, teachers, and nurses, for example, encounter stress through emotional labour, excessive paperwork, and the constant demand to meet the needs of those they serve, often with insufficient resources or support. The stress experienced in these occupations can stem from a combination of high expectations, lack of positive feedback, and the emotional toll of their work. This environment can lead to job strain, a condition characterised by high demands and low control, which research has linked to a variety of health issues, including cardiovascular disease and mental health disorders (Karasek & Theorell, 1990; Schnall & Landsbergis, 1994; Theorell et al., 1998).

Table SUP WB.6. Occupations and their related stressors

Occupation	Stressors Specific to Occupation
Police officer	physical dangers, excessive paperwork, dealing with court system, tense interactions, life-and-death decision-making
Firefighter	uncertainty over whether a serious fire or hazard awaits after an alarm, potential for extreme physical danger
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 supplies or facilities, work overload, lack of positive feedback, threat of physical violence, lack of support from parents and administrators
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
Clerical and secretarial work	few opportunities for advancement, unsupportive supervisors, work overload, perceived lack of control
Managerial work	work overload, conflict and ambiguity in defining the managerial role, difficult work relationships

The concept of job strain highlights the importance of workplace environment and job design in influencing employee well-being. Occupations that involve repetitive tasks, limited autonomy, and unsupportive management can

exacerbate feelings of helplessness and frustration, contributing to job burnout. This state of chronic workplace stress is marked by emotional exhaustion, cynicism, and a sense of reduced personal accomplishment (Maslach & Jackson, 1981). Factors such as organizational culture, work-life balance, and the availability of mental health resources play critical roles in mitigating or exacerbating occupational stress. Addressing these stressors requires a multifaceted approach, including organizational changes to reduce job demands, increase employee control, and provide support for those struggling with the psychological impacts of their work.

Example: Tyre, a nursing assistant in a nursing home, worked long hours for low pay in a tough environment, with a domineering and unsupportive supervisor. They had little control over their work, couldn't take breaks freely, and felt unappreciated. Over time, Tyre grew to hate the job, developed a hostile attitude, and eventually quit. Tyre now works in sales and refuses to return to nursing.

While occupation-related stressors can significantly impact our well-being, broader societal issues, such as gender-based and race-based violence and discrimination, add another layer of complexity to the stress experienced by individuals, particularly those from marginalized groups.

### Lockdown During the COVID 19 Pandemic: Psychological Effects

Content Disclosure: Please be advised that the following section on the psychological effects of the COVID 19 lockdown includes discussions of sensitive topics. These include grief and loss, mental health challenges such as anxiety, depression, and PTSD, increased suicide risk, and family violence and abuse. The content is intended to provide a comprehensive understanding of these issues based on scientific research but may be distressing for some readers. Reader discretion is advised, and support should be sought if needed.

The COVID 19 pandemic and the ensuing lockdowns introduced unprecedented psychological stressors on a global scale. The sudden shift to isolation, combined with uncertainty and fear of the virus, significantly impacted mental health, leading to increased reports of anxiety, depression, PTSD (post-traumatic Stress Disorder), and other stress-related disorders. The lockdowns disrupted daily routines, social interactions, and access to support networks, exacerbating feelings of loneliness and helplessness (Martinelli et al., 2021; Prati & Mancini, 2021). Specific groups, such as healthcare professionals, faced the dual challenge of heightened exposure to the virus and the emotional burden of treating COVID 19 patients, further increasing the risk of psychological distress and burnout.

PTSD, or Post-Traumatic Stress Disorder, is a mental health condition that can occur after someone goes through a very stressful or frightening event. It involves ongoing, severe reactions to trauma, such as nightmares, flashbacks, severe anxiety, and uncontrollable thoughts about the event. People with PTSD may find themselves feeling scared or stressed even when they are no longer in danger.

The psychological impact of the pandemic was also profound in terms of grief and loss. Many individuals experienced the loss of loved ones to the virus, compounded by restrictions on gatherings and funerals, making the grieving process more difficult (Cena et al., 2022; Kira et al., 2021). The Pandemic Grief Scale was developed to assess dysfunctional grief related to COVID 19 losses, highlighting the need for specialised support for those affected (Lee & Neimeyer, 2020). Additionally, the lockdowns saw a significant rise in substance abuse, with increases in alcohol and illicit drug use as individuals turned to these substances as a coping mechanism for stress, isolation, and anxiety (Killgore, Cloonan, Taylor, Lucas, & Dailey, 2020; Schmits & Glowacz, 2021).

Moreover, the lockdowns had a differential impact across genders and age groups. Women and younger individuals reported higher levels of stress, anxiety, and depression, pointing to the varied effects of the pandemic based on

demographic factors (Ausín et al., 2020; Gopal et al., 2020). The increase in domestic violence and child abuse during lockdowns, referred to as a “shadow pandemic,” highlighted the dangerous intersection of isolation, stress, and existing societal issues, necessitating urgent attention and intervention (Abdullah, Cudjoe, Ryu, & Emery, 2021; Christie, Hiscox, Halligan, & Creswell, 2022). As the world continues to navigate the aftermath of the pandemic, understanding these psychological effects is crucial for developing strategies to support mental health and resilience in the face of future crises.

Understanding the Psychological Impact of Lockdown: In summary, the lockdowns during the COVID 19 pandemic had various effects on our psychological well-being depending on our personality, neurodiverse status, family, and home circumstances. Understanding these effects is crucial in developing strategies to support mental health in similar future scenarios.

[Supplement WB.22: Deep Dive – Oppression-based violence and discrimination: Impacts on Health \[New Tab\]](#)

[Supplement WB.23: Deep Dive – Lockdown During the COVID-19 Pandemic: Psychological Effects \[New Tab\]](#)

# WB.20: Deep Dive - Rate your own life stress this past year

Approximate reading time: 5 minutes

Go to [Mind Tools and complete the SRRS scale](#) to determine the total number of LCUs you have experienced over the last year.

What do you think?

# WB.21: Deep Dive - Life Changes as Stressors: Research findings

Approximate reading time: 7 minutes

Most stressors that we encounter are not nearly as intense as the ones described above. Many potential stressors we face involve events or situations that require us to make changes in our ongoing lives and require time as we adjust to those changes. Examples include death of a close family member, marriage, divorce, and moving (Figure W.11).

In the 1960s, two psychiatrists, Thomas Holmes and Richard Rahe, were curious about how different life events, whether good or bad, could affect a person's health. They thought that any big change in someone's usual way of life could be stressful. To explore this, they created a list called the Social Readjustment Rating Scale (SRRS), which included 43 different life events that might require a person to adjust in some way (Holmes & Rahe, 1967).

What's interesting is that this list includes events that many people would usually think of as happy or positive, like getting married or going on vacation. These events are examples of "eustress", which is a kind of stress that can actually be beneficial or feel positive. However, Holmes and Rahe also believed that if you experience too many of these life changes in a short period, it could increase your chances of getting physically sick.

To make their scale, they asked 394 people to give a number to each event on the list, based on how much they thought it would shake up someone's life. These numbers gave an average score for each event, called "life change units" or LCUs (Rahe, McKeen, & Arthur, 1967). The scores ranged from 11 to 100, with higher numbers indicating more significant life changes. For example, the death of a spouse was at the top of the list with 100 LCUs, and divorce was next with 73 LCUs. Other high-ranking events included personal injury or illness, marriage, and losing a job. On the lower end, things like changing your eating habits or going on a vacation had fewer LCUs.

To use the scale, people would check off any events they had experienced in the past year. Then, they'd add up the LCUs for each checked event to get a total score that represented the amount of change in their life. Interestingly, the way people rated these events was pretty consistent, even across different cultures. This scale helped show that life changes, big or small, can have a real impact on our health. Agreement on the amount of adjustment required by the various life events on the SRRS is highly consistent, even cross-culturally (Holmes & Masuda, 1974).

Table SUP WB.7. Some stressors on the Social Readjustment Rating Scale (SRRS)

Live event	Life change units
Death of a close family member	63
Personal injury or illness	53
Dismissal from work	47
Change in financial state	38
Change to different line of work	36
Outstanding personal achievement	28
Beginning or ending school	26
Change in living conditions	25
Change in working hours or conditions	20
Change in residence	20
Change in schools	20
Change in social activities	19
Change in sleeping habits	16
Change in eating habits	15
Minor violation of the law	11

Table adapted from Holmes & Rahe (1967).

The Social Readjustment Rating Scale (SRRS) provides researchers a simple, easy-to-administer way of assessing the amount of stress in people’s lives, and it has been used in hundreds of studies (Thoits, 2010). Despite its widespread use, the scale has been subject to criticism.

First, many of the items on the SRRS are vague; for example, death of a close friend could involve the passing of a long-absent childhood friend that requires little social readjustment (Dohrenwend, 2006).

Second, some have challenged its assumption that undesirable life events are no more stressful than desirable ones (Derogatis & Coons, 1993).

Third, most of the available evidence suggests that, at least as far as mental health is concerned, undesirable or negative events are more strongly associated with poor outcomes (such as depression) than desirable, positive events (Hatch & Dohrenwend, 2007).

Fourth, perhaps the most serious criticism, is that the scale does not take into consideration respondents’ appraisals of the life events it contains. As you recall, the appraisal of a stressor is a key element in the conceptualization and overall experience of stress. Being fired from work may be devastating to some but a welcome opportunity to obtain a better job for others.

Despite these criticisms, the SRRS remains one of the most well-known instruments in the study of stress, and it is a useful tool for identifying potential stress-related health outcomes (Scully et al., 2000).

# 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' 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. Consider all the thousands of studies that have used this scale to correlate stress and illness symptoms: if you were to assign an average correlation coefficient to this body of research, what would be your best guess? How strong do you think the correlation coefficient would be? 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? Or both?

Given the extensive research utilizing the Holmes and Rahe Social Readjustment Rating Scale (SRRS) to correlate stress with illness symptoms, an average correlation coefficient might reasonably be guessed to fall in the low to moderate range (e.g., 0.2 to 0.5). This range suggests a positive but not overwhelmingly strong relationship, where higher levels of stress (as measured by LCU scores) are associated with a greater number of health symptoms. The SRRS cannot show a causal relationship between stress and illness because it relies on correlational data, which can indicate a relationship between two variables but cannot definitively prove that one causes the other. Factors such as individual differences, environmental influences, and third variables could influence both stress and health outcomes. While it's plausible that stress can lead to illness by compromising the immune system, illness can also increase stress levels, indicating a bidirectional relationship.

Similar to the stress induced by major life changes, occupational stressors present another critical aspect of how our daily environments and roles can contribute to our overall stress levels.

# WB.22: Deep Dive - Oppression-based violence and discrimination: Impacts on Health

Approximate reading time: 13 minutes

In the sections ahead, we will focus on two predominant forms of oppression: gender-based and race-based violence and discrimination. These topics are crucial to an understanding of the ways in which systemic and societal inequalities profoundly affect individuals' mental and physical health. As we look into these issues, it's important to understand how society's unfair systems and the health problems people face are connected and affect each other.

Gender-based violence, characterized by harmful acts directed at individuals due to their gender, significantly affects mental health. Predominantly impacting women and girls, this violence leads to psychological distress and mental disorders, including depression, anxiety, and PTSD (Tol et al., 2013; Calle-Guisado et al., 2023; Sijbrandij et al., 2016; St John & Walmsley, 2021). Beyond immediate mental health effects, gender-based violence can cause long-term physiological changes, increasing health risks and disparities, notably in cases of intimate partner violence (IPV) and among transgender individuals facing transphobia-based violence (Sabri & Granger, 2018; Começanha et al., 2017; Klemmer et al., 2018).

Race-based violence and discrimination, particularly affecting Black males in the United States, pose significant health and stress challenges. Black individuals face a higher risk of violent crimes, including shootings and homicides, with profound mental health implications (Tregle, Nix, & Alpert, 2018; Singletary, 2020; Riddell et al., 2018). The criminal justice system's high involvement with Black individuals and the exposure of young Black males to violence further exacerbate these health disparities, underscoring the need to address societal and environmental factors in discussions on stress and health (D'alessio & Stolzenberg, 2003; Tyler et al., 2016).

Addressing these issues requires a collective societal effort to recognize, challenge, and change the norms and structures perpetuating violence and discrimination. By fostering awareness and creating safer, more equitable communities, we can begin to mitigate the adverse health impacts of gender-based and race-based oppression. This collective action is essential for healing, empowerment, and the pursuit of a more just society.

## Example Disproportionate Victimization of Black Males in the U.S.

### Disproportionate Victimization in Violent Crimes

Black males are disproportionately the victims of police killings in the United States (Smith Lee & Robinson, 2019; Reynolds, 2022; Thomas, Jewell, and Allen, 2020; Tregle, Nix, and Alpert, 2018).

Black males are disproportionately represented among persons arrested for violent acts, with homicide being the leading cause of death for Black males aged 15 to 34 years [Washington, 1996].

## Homicide and Violent Crime Rates

Black males were ten times more likely to be homicide victims than White males between the ages of 15 and 44 [Stark, 1993].

Individuals who self-identify as Black are six times as likely to die at the hands of a murderer and roughly seven times as likely to murder someone, with young Black men being 15 times as likely to be murdered as young White men [O'Flaherty & Sethi, 2010].

## Firearm Homicide Rates

Black men are 14 times more likely than White men to die by firearm homicide [Riddell et al., 2018].

## Incarceration and Crime Involvement

The disproportionately high arrest rate for Black citizens is most likely attributable to differential involvement in reported crime rather than racially biased law enforcement practices (D'alessio & Stolzenberg, 2003). Innocent Black people are about seven times more likely to be convicted of murder than innocent White people (Gross, Possley, & Stephens, 2022).

Blacks are six to seven times more likely than Whites to be in prison, despite a decline in violent crime involvement (Tonry & Melewski, 2008).

## Youth Exposure to Violence

30% of young, school-aged Black American boys are exposed to violent events, particularly violent crimes (Tyler et al., 2016).

## Impact on Mental Health

Exposure to nearby violent crime events reduces employers' likelihood to call back Black job applicants by 10 percentage points, regardless of their criminal record [Mobasseri, 2019]. Traumatic experiences and exposure to recurring violence significantly impact the psychological disposition and ability to function in Black males living in violent communities [Singletary, 2020].

# Racial Disparities in Police Shootings

Officers are more likely to shoot Black suspects, even when race-based differences in crime are held constant [Scott et al., 2017].

As we conclude our comprehensive exploration of stressors, it's clear that this complex phenomenon is more than just a personal experience; it's a reflection of broader societal dynamics and challenges. From the environmental stressors highlighted in the Rat Park Experiments to the profound impacts of gender-based and race-based violence, we've seen how stress is intricately linked to the world around us. In addition to the ongoing societal challenges like gender-based and race-based violence, recent global events such as the COVID 19 pandemic have introduced unique psychological stressors, profoundly affecting individuals and communities worldwide.

Watch this video: [Racism and Health \(3 minutes\)](#)



*One or more interactive elements has been excluded from this version of the text. You can view them online here:*  
<https://opentextbc.ca/psychologymtdisupplement/?p=340#oembed-1>

“Racism and Health” video by Centers for Disease Control and Prevention (CDC) is licensed under the Standard YouTube licence.

Watch this video: [Racism and Mental Health \(4 minutes\)](#)



*One or more interactive elements has been excluded from this version of the text. You can view them online here:*  
<https://opentextbc.ca/psychologymtdisupplement/?p=340#oembed-2>

“Racism and Mental Health” video by Psych Hub is licensed under the Standard YouTube licence.

# WB.23: Deep Dive - Lockdown During the COVID-19 Pandemic: Psychological Effects

Approximate reading time: 8 minutes

Content Disclosure: Please be advised that the following section on the psychological effects of the COVID 19 lockdown includes discussions of sensitive topics. These include grief and loss, mental health challenges such as anxiety, depression, and PTSD, increased suicide risk, and family violence and abuse. The content is intended to provide a comprehensive understanding of these issues based on scientific research but may be distressing for some readers. Reader discretion is advised, and support should be sought if needed.

As we reflect on the COVID 19 pandemic, it's crucial to acknowledge the profound psychological impacts of the lockdowns. This period was marked by significant changes and challenges for many. Let's explore these effects, supported by scientific findings, to better understand how they might have influenced our mental health.

## Grief and Loss During the Pandemic

The pandemic brought about unprecedented challenges, particularly in terms of grief and loss. Different groups experienced this grief in unique ways. The 2SLGBTQIA+ community, for instance, faced not only the loss of loved ones but also significant disruptions to their social connections and support systems, deeply affecting their sense of identity and belonging (Lucas et al., 2022). Parents who suffered miscarriages or infant deaths during the pandemic encountered heightened risks of prolonged and complicated grief, largely due to restricted access to essential bereavement care (Cena et al., 2022). These experiences underline the pandemic's far-reaching effects on mental health and well-being.

## Impact of Bereavement and Loss

The psychological impact of these losses was profound. Bereaved individuals often experienced intense psychological symptoms, including prolonged grief, depression, anxiety, and functional impairments (Reitsma et al., 2023). The stressors of the pandemic, including the grief of losing loved ones, were significantly linked to mental health issues like PTSD and cognitive deficits (Kira et al., 2021). The Pandemic Grief Scale was developed to identify cases of dysfunctional grief related to COVID 19 losses, highlighting the need for timely and holistic support for those grieving (Lee & Neimeyer, 2020).

PTSD, or Post-Traumatic Stress Disorder, is a mental health condition that can occur after someone goes through a very stressful or frightening event. It involves ongoing, severe reactions to trauma, such as nightmares, flashbacks, severe anxiety, and uncontrollable thoughts about the event. People with PTSD may find themselves feeling scared or stressed even when they are no longer in danger.

Anxiety and Depression During Lockdown: The lockdowns also brought a notable increase in anxiety and depression. Individuals with pre-existing depressive symptoms were particularly vulnerable, experiencing more fear, anxiety, and sadness, exacerbated by disrupted daily routines and sleep patterns (Martinelli et al., 2021). The overall impact on mental health was small, but the effects on anxiety and depression were significant (Prati & Mancini, 2021).

## Suicide Risk and Lockdown

A concerning aspect of the lockdown was its association with increased suicide risk and attempts. Jhanwar, Krishnan, and Rohilla (2020) reported an increase in emergency psychiatry presentations for attempted suicide, with relationship issues and loss of privacy being key stressors (Jhanwar et al., 2020). Olashore (2020) noted that reduced contact and communication could lead to heightened feelings of anxiety, depression, and suicidal thoughts (Olashore, 2020).

## Psychological Distress and Stress Factors

The lockdowns also led to increased psychological distress. Factors like self-stigma, social support, and perceived control played significant roles in this distress (Gan et al., 2020). Avsec et al. (2021) further explained that the distress was linked to diminished psychological functioning due to decreased satisfaction of basic psychological needs (Avsec et al., 2021).

## Alcohol and Drug Abuse during Lockdown

During the COVID 19 lockdown, there was a noticeable increase in alcohol and drug abuse. Studies have shown that this period saw a rise in hazardous alcohol use and likely dependence, particularly among those under lockdown compared to those not facing such restrictions (Killgore, Cloonan, Taylor, Lucas, & Dailey, 2020). Additionally, 26.4% of

the population increased their alcohol consumption during the lockdown, with older individuals, those working from home, and higher educated individuals being more likely to increase consumption (Schmits & Glowacz, 2021). The lockdown also led to a steady increase in alcohol and illicit drug use, with reports indicating a rise from 38.6% to 50.9% for alcohol, and 3.5% to 10.7% for illicit drug use (Sanaka, Garg, Patel, McMichael, & Macaron, 2022). These findings highlight the significant impact of lockdown measures on substance abuse behaviours.

## Gender-Specific Impacts of Lockdown

Interestingly, the impacts of lockdowns varied across genders. Female-identified people showed more symptoms of depression, anxiety, and PTSD, and experienced greater loneliness compared to male-identified people (Ausín et al., 2020; Gopal et al., 2020).

## Unexpected Benefits of Lockdown

While the lockdowns were challenging for many, they offered unexpected benefits for specific groups. Introverts, for example, found the shift to virtual learning to be a positive change, providing a more comfortable learning environment (Sanudin, Rahmat, Chee Din, & Akeb-urai, 2022). Neurodiverse adolescents experienced little change in mental health problems and feelings of loneliness during school lockdowns, suggesting that the usual school environment might be more challenging for them than for neurotypical individuals (Houghton et al., 2022). Extraverts, despite missing social interactions, found relaxation and positive aspects in the slower pace of life during lockdown (Weiß, Rodrigues, & Hewig, 2020).

## Increased Violence During COVID 19 Lockdown

The COVID 19-related lockdown increased violence against women, with psychological abuse being the most frequent type; those who experienced abuse before the lockdown were at an increased risk of violence during lockdown (Sediri et al., 2020). Forced coexistence during lockdown periods exacerbated situations of violence against women in the home (Sdao et al., 2021)

## Family Violence and Abuse During Lockdown

The lockdowns also had profound and complex effects on family dynamics, particularly in the context of family violence and child abuse. There was a notable increase in family violence and child maltreatment cases. Lockdowns and movement restrictions severely limited victims' ability to seek social services or escape violent relationships, exacerbating the situation (Abdullah, Cudjoe, Ryu, & Emery, 2021). This was coupled with a sharp rise in accessing domestic abuse support services and an increase in child and adolescent violence towards parents (Christie, Hiscox, Halligan, & Creswell, 2022). The prevalence of family violence, physical violence, emotional abuse, and neglect increased significantly, with most victims not seeking official help (Zhang, Li, Shi, Dong, & Wang, 2021). This situation

was described as a “shadow pandemic” of domestic violence and child abuse, necessitating increased awareness and public scrutiny (Ravichandran, Shah, & Ravichandran, 2020).

Conversely, some studies noted a decrease in certain types of abuse, such as emotional, physical, and sexual abuse and neglect, although there was an increase in children witnessing domestic violence (Long, Huang, Peng, Mai, Yuan, & Yang, 2022). This paradoxical situation underscores the complexity of family dynamics under lockdown conditions and the varying impacts on different forms of abuse and violence.

## Understanding the Psychological Impact of Lockdown

In summary, the lockdowns during the COVID 19 pandemic had various effects on our psychological well-being depending on our personality, neurodiverse status, family, and home circumstances. Understanding these effects is crucial in developing strategies to support mental health in similar future scenarios.

# WB.24: Deep Dive - Traumatic Events: Research findings

Approximate reading time: 8 minutes

Content Disclosure: Please be advised that the following section involves a discussion about traumatic events or situations in which a person is exposed to actual or threatened death or serious injury.

Stressors in this category include exposure to military combat, threatened or actual physical assaults (e.g., physical attacks, robbery, abuse), terrorist attacks, natural disasters (e.g., earthquakes, floods, hurricanes), and automobile accidents. Men, BIPOC (Black, Indigenous, and People of Colour), and individuals in lower socioeconomic status (SES) groups report experiencing a greater number of traumatic events than do women, Whites, and individuals in higher SES groups (Hatch & Dohrenwend, 2007). Some individuals who are exposed to stressors of extreme magnitude develop post-traumatic stress disorder (PTSD): a chronic stress reaction characterised by experiences and behaviours that may include intrusive and painful memories of the stressor event, jumpiness, persistent negative emotional states, detachment from others, angry outbursts, and avoidance of reminders of the event (American Psychiatric Association [APA], 2013).

Beyond the immediate impact of traumatic events, stress can also arise from more gradual life changes. These transitions, whether positive (i.e., uplifts) or negative (i.e., hassles), require adjustments that can significantly affect our mental health. Recent studies indicate that even seemingly positive life changes, such as a job promotion or moving to a new city, can trigger stress responses similar to those experienced in traumatic events (Smith & Jones, 2019). Furthermore, the cumulative effect of multiple minor stressors — called hassles — can lead to significant mental health challenges, often comparable to those triggered by a single traumatic event (Johnson et al., 2020).

The long-term effects of trauma can manifest in various ways, including an increased risk for mental health disorders such as anxiety and depression (Williams & Thompson, 2021). Additionally, there is growing evidence that trauma can have intergenerational impacts, affecting not just those who directly experience the event but also their descendants (Lee & Kim, 2022).

Watch this video: [Childhood Trauma and the Brain | UK Trauma Council \(5 minutes\)](#)



One or more interactive elements has been excluded from this version of the text. You can view them online here: <https://opentextbc.ca/psychologymtdisupplement/?p=344#oembed-1>

“Childhood Trauma and the Brain | UK Trauma Council” video by Anna Freud is licensed under the Standard YouTube licence.

# WB.25: Deep Dive - Catastrophic Trauma/ Surviving Indian Residential Schools

Approximate reading time: 5 minutes

Content Disclosure: This section contains discussions on the psychological and physiological impacts of stress, with a focus on the historical trauma experienced by Indigenous communities, particularly related to Indian Residential Schools. It includes descriptions of trauma, cultural genocide, and abuse, which may be distressing or triggering for some readers. The content is presented with a trauma-informed approach and includes both scientific terminology and plain language explanations. Please consider your comfort level with these topics before reading.

“The violence my grandmother experienced in the residential school, she never spoke of it. She didn’t have to. I saw it in her eyes. I felt it in her touch. She carried it every day.” Eden Robinson, Haisla/Heiltsuk author (Robinson, E., 2017. In: *Son of a Trickster*. Knopf Canada)

The catastrophic legacy of Indian Residential Schools (IRS) in Canada has left profound and lasting impacts on Indigenous communities, affecting both psychological and physiological health across generations. Eden Robinson’s poignant reflection on her grandmother’s unspoken trauma (Robinson, E., 2017) encapsulates the deep, silent suffering endured by many. The IRS system, operational from 1876 to 1996, forcibly removed Indigenous children from their families, subjecting them to cultural genocide, abuse, and neglect (Truth and Reconciliation Commission [TRC], 2015; Bombay et al., 2014ab; Smith, n.d.). The effects of the IRS-based violence and neglect have reverberated through generations, contributing to a complex web of psychological and physiological challenges among Indigenous peoples.

## Cumulative Risk

Cumulative risk can be understood as the number and severity of adversities (e.g., low SES, addict parent or caregiver) experienced in childhood, wherein a greater number and severity of adversities often “adds up” to a greater risk of an individual to experience later physical and mental health issues (Boles, 2021; Kwong & Hayes, 2017; Felitti & Anda, 2009; Felitti et al., 1998). Putting this research into context, IRS Survivors who underwent separation from parents, and experienced abuse, racism, and forced immersion in a hostile non-Indigenous culture, were all factors that had a cumulative impact and amplified adverse effects of their adverse experiences at IRS (McQuaid et al., 2017; Richmond et al., 2009). As many Indigenous peoples were directly or indirectly affected by IRSs and colonization, in combination with deficient health resources/geographical isolation, and other ongoing inequities, it is not surprising that many health inequities faced by Indigenous peoples documented 20 years ago are still faced today (Gracey & King, 2009; RCAP, 1996; TRC, 2015).

# The work of Maria Yellow Horse Brave Heart

Maria Yellow Horse Brave Heart (photo above), a Hunkpapa Oglala Lakota social worker, psychiatrist, and academic, has been instrumental in developing the concept of Historical Trauma Response (HTR). Her work sheds light on the cumulative emotional and psychological wounding that occurs across an individual's lifespan and generations, resulting from massive, cataclysmic events experienced by specific groups, such as Indigenous peoples. This concept is pivotal in understanding the enduring impact of events like the Indian Residential Schools. Historical Trauma Response encapsulates symptoms akin to post-traumatic stress disorder (PTSD), but it extends beyond individual experiences to encompass the collective trauma of entire communities over generations.

Additionally, Brave Heart introduced the idea of historical unresolved grief, which refers to the enduring grief stemming from historical trauma. This grief, passed down through generations, has not been fully expressed, acknowledged, or addressed, and continues to affect individuals and communities. It manifests in various social and health problems, rooted in the numerous traumatic events that Indigenous peoples have faced over centuries, including forced relocation, assimilation policies, and boarding school abuses.

Brave Heart's work emphasizes the importance of culturally sensitive interventions to address these challenges. She advocates for psycho-educational group interventions that incorporate traditional Native American healing practices. These interventions aim to create safe spaces for individuals to process historical traumas and unresolved grief, understand the sources of their distress, connect with their cultural history, and develop coping strategies to heal and build resilience.

Her contributions offer a profound theoretical framework for understanding the emotional, psychological, and social challenges faced by Native American communities. This framework is crucial for psychologists, therapists, and educators in developing effective, culturally appropriate methods to support healing and resilience in Indigenous communities impacted by historical trauma and unresolved grief.

In response to these profound challenges, culturally sensitive and trauma-informed approaches are essential. These include traditional Indigenous healing practices, culturally adapted Cognitive-Behavioral Therapy, and trauma-informed care (Gone, 2013; Gone and Calf Looking, 2011; Walters et al., 2011). The importance of cultural revitalization in healing and resilience is also emphasized, as seen in the work of Chandler & Lalonde (2008). Understanding and addressing these deep-rooted issues is crucial for psychologists and health professionals working with Indigenous communities, as they navigate the complex legacy of IRS and strive towards healing and resilience.

# WB.26: Deep Dive - Immune System Errors and Mental Health

Approximate reading time: 10 minutes

Sometimes, the immune system will function erroneously. For example, sometimes it can go awry by mistaking your body's own healthy cells for invaders and repeatedly attacking them. When this happens, the person is said to have an autoimmune disease, which can affect almost any part of the body. How an autoimmune disease affects a person depends on what part of the body is targeted. For instance, rheumatoid arthritis, an autoimmune disease that affects the joints, results in joint pain, stiffness, and loss of function. Systemic lupus erythematosus, an autoimmune disease that affects the skin, can result in rashes and swelling of the skin. Grave's disease, an autoimmune disease that affects the thyroid gland, can result in fatigue, weight gain, and muscle aches (National Institute of Arthritis and Musculoskeletal and Skin Diseases [NIAMS], 2012).

In addition, the immune system may sometimes break down and be unable to do its job. This situation is referred to as immunosuppression, the decreased effectiveness of the immune system. When people experience immunosuppression, they become susceptible to any number of infections, illness, and diseases. For example, acquired immune deficiency syndrome (AIDS) is a serious and lethal disease that is caused by human immunodeficiency virus (HIV), which greatly weakens the immune system by infecting and destroying antibody-producing cells, thus rendering an untreated person vulnerable to any of a number of opportunistic infections (Powell, 1996).

Watch this video: [The Overlap of Autoimmunity and Mental Health Conditions \(7 minutes\)](#)



*One or more interactive elements has been excluded from this version of the text. You can view them online here:*

<https://opentextbc.ca/psychologymtdisupplement/?p=348#oembed-1>

“The Overlap of Autoimmunity and Mental Health Conditions” video by SciShow Psych is licensed under the Standard YouTube licence.

# WB.27: Case Study - The High Cost of High Achievement - Kenji's Journey with Type A Behavior

Approximate reading time: 3 minutes

Kenji is an individual who clearly exhibits a Type A behaviour pattern. From childhood, he has always been intense and driven. Excelling at school, Kenji was the captain of the swim team and graduated with honours from an Ivy League college. He never seems able to relax, constantly working on something, even during weekends. However, Kenji often feels overwhelmed by time, believing there are not enough hours in the day to achieve everything he sets out to do.

At work, Kenji is known for volunteering at the local food bank, taking on extra tasks, and frequently bringing work home. He often goes to bed late, frustrated by a feeling of not having accomplished enough. Quick-tempered with colleagues, Kenji becomes noticeably agitated when dealing with coworkers he perceives as too slow or substandard in their work quality. Interruptions at work typically trigger a hostile reaction from him.

Kenji's relentless work ethic strains his personal relationships, particularly due to the limited time he spends with family. His daily commute is another source of stress; caught in traffic, Kenji is known to pound on the horn and loudly express his frustration at other drivers. This high-stress lifestyle takes its toll when, at the age of 52, Kenji suffers his first heart attack.

# WB.28: Case Study - The Cycle of Hostility and Its Impact on Cardiovascular Health

Approximate reading time: 3 minutes

## Background

Meet M., a 45-year-old individual with a notably hostile disposition. M. harbours a cynical and distrustful attitude towards others, often perceiving their actions as personal attacks. This case study explores the psychological and physiological implications of M.'s hostility, particularly focusing on the potential for cardiovascular problems.

## Case Presentation

M. exhibits a pattern of defensive behaviour, even around long-known acquaintances. He is constantly vigilant for signs of disrespect or belittlement. Each morning, M. engages in mental rehearsals in the shower, preparing responses for hypothetical confrontations, particularly those involving political disagreements. These rehearsals often leave him feeling a sense of grim satisfaction, anticipating retaliation against perceived slights.

In social settings, M.'s interactions are characterised by confrontation and a harsh tone. This approach frequently leads to disagreeable and argumentative exchanges. Consequently, M. is not well-received among his peers, including coworkers, neighbours, and family members. Most tend to either avoid him or respond with hostility, reinforcing M.'s cynical worldview and perpetuating his hostile demeanour.

## Psychological Analysis

M.'s behaviour aligns with patterns of hostility and aggression, which are often linked to negative social interactions and isolation. His constant anticipation of conflict can be seen as a defensive mechanism, possibly rooted in past experiences or a deeply ingrained personality trait. The cycle of hostility he experiences is self-perpetuating, as his aggressive demeanour elicits negative responses from others, further entrenching his belief in their malevolence.

## Physiological Implications

Chronic hostility and stress have been linked to cardiovascular problems. M.'s persistent state of mental rehearsal and confrontation activates his stress response, potentially leading to hypertension and increased risk of cardiovascular

diseases. The constant activation of the fight-or-flight response can strain the cardiovascular system, elevate blood pressure and heart rate, and potentially cause long-term damage.

## Conclusion

M.'s case illustrates the complex interplay between psychological dispositions and physical health. His hostile attitude not only impacts his social interactions but also poses a significant risk to his cardiovascular health. Through psychological intervention and lifestyle changes, there is potential for M. to break this cycle, leading to improved mental and physical well-being.

# WB.29: Case Study - The Impact of Negative Affectivity on Cardiovascular Health and Behaviour in a Young Athlete

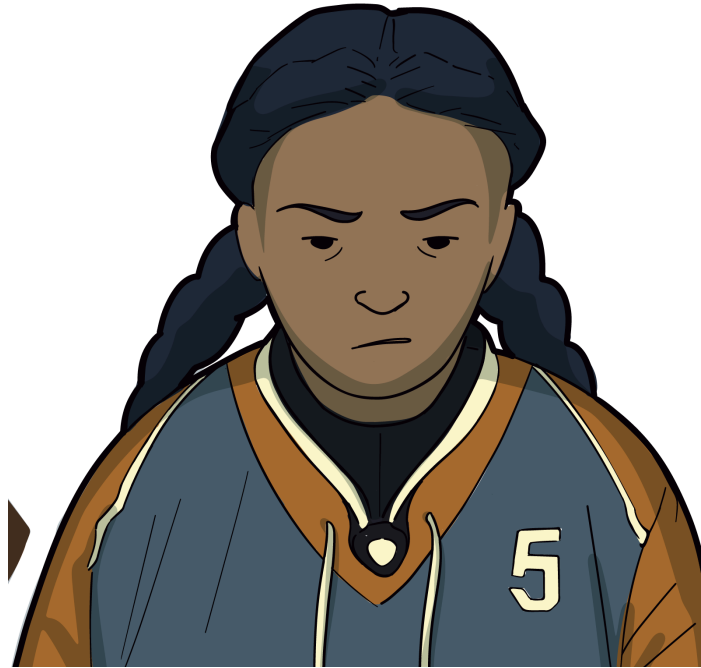
Approximate reading time: 3 minutes

## Background

Sarah, a 17-year-old high school student, is not only a star hockey player but also struggles with negative affectivity, a personality trait characterized by persistent distressing emotions.

## Case Presentation

Sarah's exceptional skills in hockey are often overshadowed by her emotional struggles. She frequently experiences intense feelings of anger, contempt, disgust, guilt, fear, and nervousness. These emotions are not just momentary; they are deeply ingrained in her personality and affect her daily life.



*Figure SUP WB.6. Emotional turmoil. These emotions are not just momentary; they are deeply ingrained in Sarah's personality and affect her daily life. Emotional turmoil by Rachel Lu is licensed under a [CC BY-NC-SA license](#).*

In addition to the emotional turmoil, Sarah's negative affectivity affects her ability to participate in her big love in life — hockey. She often gets called out by referees for roughing up and yelling at other players. This aggressive behaviour results in Sarah spending significant time on the penalty bench, detracting from her participation in the sport she loves and excels in.

## Psychological Analysis

Sarah's behaviour on the ice can be directly linked to her negative affectivity, as described by Watson, Clark, and Tellegen (1988). This persistent state of negative emotions affects her stress response, leading to aggressive behaviour in high-pressure situations like competitive sports.

## Physiological Implications

The chronic stress associated with negative affectivity and aggressive behaviour poses a risk to Sarah's cardiovascular health. The constant activation of stress responses can contribute to the development of hypertension and heart disease (Suls & Bunde, 2005). For a young athlete like Sarah, this is particularly concerning as it can affect both her physical health and athletic career.

## Conclusion

Sarah's case underscores the complex interplay between psychological states, behaviour, and physical health. Her negative affectivity not only impacts her emotional well-being but also manifests in aggressive behaviour, affecting her participation in hockey. Addressing these challenges through psychological and behavioural interventions is crucial for her overall well-being and continued success in her sport. As Sarah enters therapy and learns to manage her emotions and reactions more effectively, it is anticipated that her mental health, behaviour on the ice, and physical health will improve.

## Image Attributions

Figure SUP WB.6. Emotional turmoil by Rachel Lu is licensed under a [CC BY-NC-SA license](#).

# WB.30: Deep Dive - Cardiovascular Disorders and Stress

Approximate reading time: 3 minutes

The cardiovascular system, which includes the heart and blood vessels, is crucial for our health. Disorders in this system, known as cardiovascular disorders, have been closely studied, especially because of their link to stress (Everly & Lating, 2002). Heart disease, a type of cardiovascular disorder, is a leading cause of death. It's responsible for about one in three deaths in the United States and is a major cause of death worldwide (Centers for Disease Control and Prevention [CDC], 2011; Shapiro, 2005; Wahab et al., 2020).

People with heart disease often experience chest pain or discomfort, known as angina. This happens when the heart doesn't get enough blood. The pain can feel like a heavy pressure on the chest, and it might come with a burning sensation and shortness of breath. These symptoms can also spread to other parts of the body like the arms, neck, jaw, stomach (causing nausea), and back (American Heart Association [AHA], 2012a).

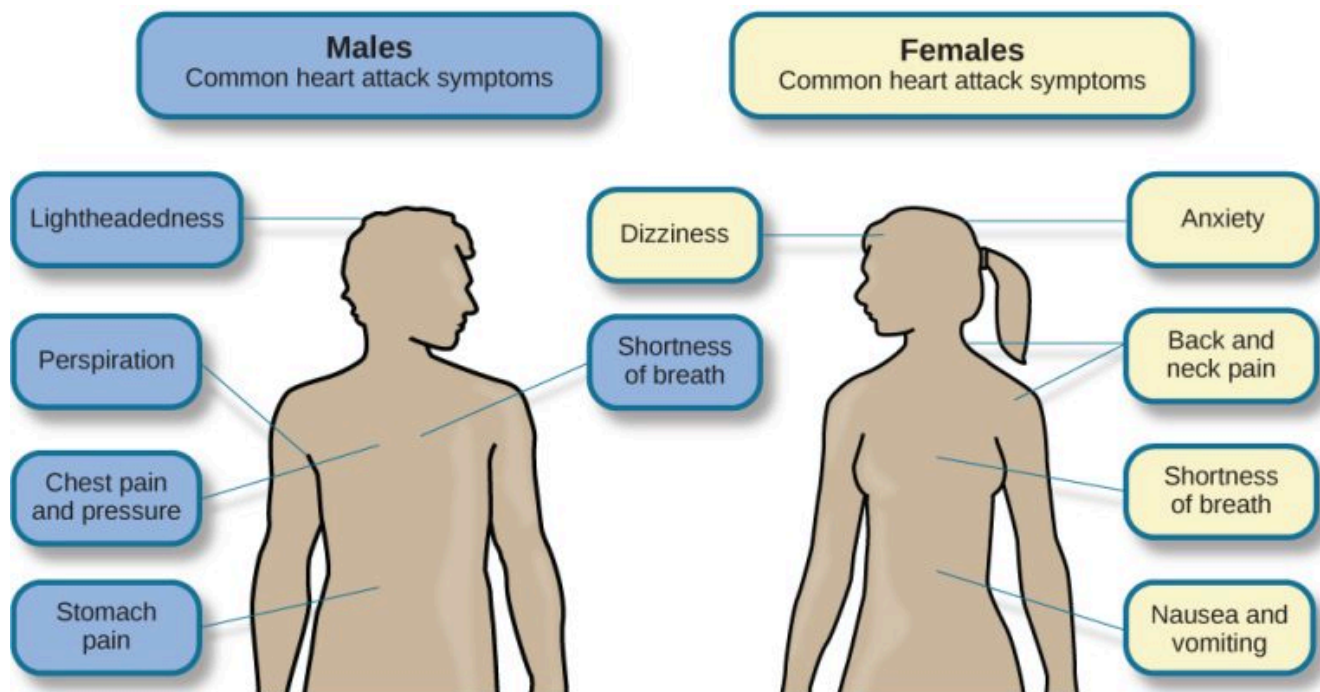


Figure SUP WB.7. Symptoms of a heart attack. Males and females often experience different symptoms of a heart attack.

A major risk factor for heart disease is high blood pressure, or hypertension. This condition makes the heart work harder, increasing the risk of heart attacks, strokes, heart failure, kidney failure, and even blindness. Hypertension is often called the “silent killer” because it usually has no symptoms, so many people don't know they have it (AHA, 2012b; Ostchega et al., 2020).

Many risk factors for cardiovascular disorders have been identified. These include age, income, education, job status, and lifestyle choices like diet, smoking, lack of physical activity, and heavy drinking. Obesity and diabetes are also risk factors (World Health Organization [WHO], 2013; Lavie et al., 2016).

In recent years, there's been more focus on how stress and psychological factors affect heart health. Different kinds of stress, like job pressure, natural disasters, marital problems, and living in noisy areas, have been linked to heart problems. For example, hypertension can be influenced by these stressors. Experiencing discrimination, especially among African Americans, has also been linked to hypertension (Sims et al., 2012; Gallo et al., 2014).

## Image Attributions

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# WB.31: Deep Dive - Headaches and Mental Health

Approximate reading time: 4 minutes

Tension headaches, a common type of headache, are closely linked to stress, sleep disturbances, and emotional factors like depression. These elements make people more sensitive to pain, which can lead to more frequent and intense headaches (Fernández-de-las-Peñas et al., 2017). Stress, in particular, plays a significant role by lowering the pain threshold, meaning that even minor triggers can cause headaches in those who are already prone to them (Cathcart et al., 2010). This is especially true for individuals who regularly experience tension headaches, as they naturally have a heightened sensitivity to pain (Cathcart et al., 2012). While the exact process of how stress exacerbates these headaches is still being studied, it's clear that managing stress can be key to reducing the frequency and severity of tension headaches. Furthermore, research has shown that daily stressors and mental strain can increase the likelihood of developing a headache, highlighting the importance of psychological well-being in managing tension headaches (Viero et al., 2022).

Headache is a continuous pain anywhere in the head and neck region.

Sinus headaches are caused by inflammation of the sinuses caused by an infection; allergic reaction can also cause sinus headaches, which are experienced as pain in the cheeks and forehead.

Migraine headaches are a type of headache thought to be caused by blood vessel swelling and increased blood flow (McIntosh, 2013). Migraines are characterized by severe pain on one or both sides of the head, an upset stomach, and disturbed vision. They are more frequently experienced by women than by men (American Academy of Neurology, 2014).

Tension headaches are triggered by tightening/tensing of facial and neck muscles; they are the most commonly experienced kind of headache, accounting for about 42% of all headaches worldwide (Stovner et al., 2007). In the United States, well over one-third of the population experiences tension headaches each year, and 2–3% of the population suffers from chronic tension headaches (Schwartz, Stewart, Simon, & Lipton, 1998).



*Figure SUP WB.8. Tension headaches. An elder suffers with a migraine while a family member stands by with a glass of water. Tension headaches by Rachel Lu is licensed under a [CC BY-NC-SA license](#).*

Recent studies have shown that not sleeping well can make tension headaches and migraines worse (Fernández-de-las-Peñas et al., 2017). Stress is also a big factor in causing these headaches. When people are stressed, it affects their body in a way that makes them more likely to get headaches (Cathcart et al., 2010). People who often have tension headaches tend to feel pain more intensely, and stress can make this pain feel even worse (Cathcart & Pritchard, 2012). Additionally, everyday stress and mental strain can increase the chances of getting a headache, highlighting the importance of managing stress for people who suffer from migraines and tension headaches (Viero et al., 2022)

Psychological treatments can bring relief to people with headaches, including those with chronic pain, like migraines or tension-type headaches. For example, a study by Eccleston and colleagues in 2002 found that these treatments are especially effective for children and teenagers, significantly reducing their pain. Another study (Williams, et al., 2020) showed that adults with chronic pain, including headaches, benefited from psychological therapies like cognitive behavioural therapy (CBT), which helped reduce their pain and stress.

Children with chronic pain, including headaches, also seem to benefit from these treatments (Fisher et al., 2014). A program combining education about headaches and relaxation techniques greatly reduced headache attacks and improved life quality for those suffering from headaches (Andrighi et al., 2016). Managing stress could be key in treating these headaches (Viero, 2022).

In summary, these studies highlight how psychological treatments, including stress management and relaxation techniques, can be helpful in reducing headache pain and improving the quality of life for both children and adults.

## Image Attributions

Figure SUP WB.8. Tension headaches by Rachel Lu is licensed under a [CC BY-NC-SA license](#).

# WB.32: Deep Dive - Asthma and Environmental Stress

Approximate reading time: 5 minutes

Asthma is a chronic and serious disease in which the airways of the respiratory system become obstructed, leading to great difficulty expelling air from the lungs. The airway obstruction is caused by inflammation of the airways (leading to thickening of the airway walls) and a tightening of the muscles around them, resulting in a narrowing of the airways (Figure W.19) (American Lung Association, 2010). Because airways become obstructed, a person with asthma will sometimes have great difficulty breathing and will experience repeated episodes of wheezing, chest tightness, shortness of breath, and coughing, the latter occurring mostly during the morning and night (CDC, 2006).

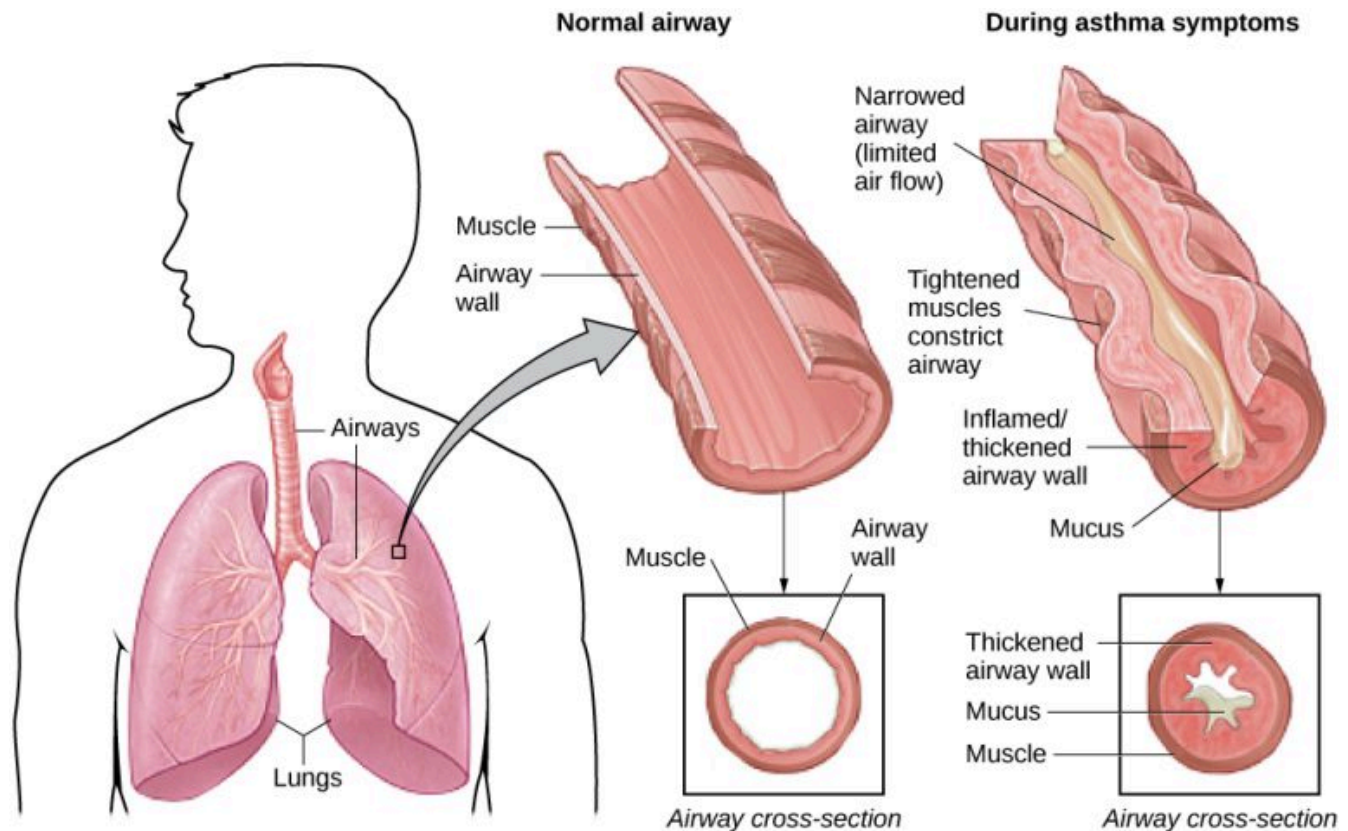


Figure SUP WB.9. Asthma. In asthma, the airways become inflamed and narrowed.

Asthma is a significant health concern in the United States. Recent studies show that asthma is responsible for around 4,000 deaths annually (Siddiqui & Kopas, 2017). It's also a condition that affects a large number of adults, with estimates suggesting that over 25 million people in the U.S. had asthma in 2010 (Akinbami et al., 2012). Asthma is more commonly found in individuals with lower income and education levels. This is evident from research showing higher asthma prevalence among those living below the poverty line and certain racial/ethnic minority groups (Herman et al., 2011; H. M.P. & Snider, 2004). While there has been an increase in asthma cases, the exact rate of this increase is not as high as previously thought. For instance, the prevalence of asthma among children rose slightly from 8.7% in 2001 to 9.4% in 2010 (Zahran et al., 2018).

Asthma is a big health issue in Canada, touching many lives. A study looking at Alberta from 1995 to 2015 found that more people are getting asthma. For women, the number went up from about 4 out of 100 to 12 out of 100. For men, it went from about 4 out of 100 to almost 12 out of 100 (Bosonea et al., 2020).

During the COVID 19 pandemic, fewer children with asthma went to the emergency room in Montréal, Quebec. But, those who did had more serious problems (Chelabi et al., 2023). Another study focused on young children in kindergarten. It found that having asthma can really affect how they grow and interact with others. This shows why it's so important to find out early if a child has asthma and help them (Schneeweiss et al., 2021).



*Figure SUP WB.10. Asthma. Child with asthma struggles to take in breaths.*

Asthma attacks are acute episodes in which an asthma sufferer experiences the full range of symptoms. Asthma exacerbation is often triggered by environmental factors, such as air pollution, allergens (e.g., pollen, mold, and pet hairs), cigarette smoke, airway infections, cold air or a sudden change in temperature, and exercise (CDC, 2013b).

Recent studies have shown that our mental state, like stress and anxiety, can have a big impact on asthma. These psychological factors can make asthma symptoms worse and affect how our immune system and lungs work (Gueiros Lira et al., 2022; Miyasaka et al., 2018). For example, when someone is stressed, it can trigger or increase asthma symptoms. This happens because stress affects the body's immune response and the way our airways function. Also, how we feel emotionally can change how we perceive asthma symptoms, making them seem more severe. This means that managing stress and emotional well-being is an important part of taking care of asthma (Rosenkranz et al., 2012; Chen & Miller, 2007).

Treating psychological symptoms like anxiety and depression can help people with asthma manage their condition better. Research shows that when kids with severe asthma get help for these psychological issues, their asthma control improves (Griffiths et al., 2019). Adults with asthma also benefit from psychological support. For example, feeling more confident and in control (known as self-efficacy and locus of control) is linked to better asthma

management and a higher quality of life (Schreitmüller & Loerbroks, 2020). Additionally, addressing psychological factors can improve overall well-being and daily functioning for asthma patients (Stanescu et al., 2019). This means that taking care of both the mind and body is important for people with asthma.

## Image Attributions

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Figure SUP WB.10. Asthma by Rachel Lu is licensed under a [CC BY-NC-SA license](#).

# WB.33: Deep Dive - Learned Helplessness - How you're unconsciously destroying your life

Approximate reading time: 6 minutes

Watch this video: [Learned Helplessness – How you're unconsciously destroying your life \(6 minutes\)](#)



*One or more interactive elements has been excluded from this version of the text. You can view them online here:*  
<https://opentextbc.ca/psychologymtdisupplement/?p=367#oembed-1>

“Learned Helplessness – How you're unconsciously destroying your life” video by Project Better Self is licensed under the Standard YouTube licence.

# WB.34: Case Study - Whitney and Their Girlfriend's Struggle with Alcohol Addiction using the "Three P's": Permanence, Pervasiveness, and Personalization

Approximate reading time: 4 minutes

## Background

Whitney, a 20-year-old university student, is facing a challenging situation. They are a first year student majoring in biology and are known for their positive attitude and academic success. However, Whitney's mental health has been impacted due to their girlfriend's struggle with alcohol addiction.

## Scenario

Whitney's girlfriend, whom they deeply care for, has been increasingly using alcohol to cope with her stress. This has led to frequent arguments, missed classes, and noticeable changes in their behaviour, causing distress for Whitney.



Figure SUP WB.11. Grabbing drinks with friends.

## Attributions Whitney Made

### Permanence – Stable vs. Unstable

- Stable: Whitney worried, “This might be a long-term problem that won’t change.”
- Unstable: They hoped that with proper help and support, their addiction could be managed and overcome.

### Pervasiveness – Global vs. Specific

- Global: Feeling overwhelmed, Whitney started to think, “This is going to affect every aspect of our lives.”
- Specific: They also considered that this issue, while serious, was specific to their girlfriend’s alcoholism as a coping mechanism and not indicative of their entire relationship.

### Personalization – Internal vs. External

- Internal: Whitney began to question themselves, “Am I not supportive enough? Is this why they are drinking?”
- External: They also recognized that their girlfriend’s addiction was influenced by external factors like stress and possibly underlying mental health issues.

Impact of Attributions on Whitney: Whitney’s internal, stable, and global attributions initially led them to feel helpless and responsible for their girlfriend’s addiction, contributing to their own stress and anxiety. Whitney began to feel depressed, questioning their ability to help and support their girlfriend.

Intervention: Realising their distress, Whitney sought support from a campus counsellor. The counsellor helped Whitney understand the complex nature of addiction and the importance of healthy attribution in coping with this situation. They worked on shifting Whitney’s attributions to help them feel more empowered and less personally responsible for their girlfriend’s behaviour.

## Changing Attribution Habits

- Internal to External: Whitney learned to recognize that their girlfriend’s addiction was not a reflection of their supportiveness but rather a result of their personal struggles.
- Stable to Unstable: They began to see the situation as changeable, with the potential for improvement through therapy and support.
- Global to Specific: Whitney understood that while the addiction was a significant issue, it did not define their entire relationship or their entire personality.

Outcome: Whitney felt more in control and less burdened by guilt. They encouraged their girlfriend to seek professional help. Whitney joined a support group for partners of individuals struggling with addiction. Whitney’s understanding and supportive approach helped strengthen their relationship, and Whitney’s girlfriend began their journey towards recovery.

Conclusion: Whitney's experience highlights the importance of understanding and managing attributions in the face of a loved one's addiction. By shifting from internal, stable, and global attributions to more external, unstable, and specific ones, Whitney was able to cope better with the situation, support their girlfriend effectively, and maintain their own mental well-being. This case study underscores the significance of attribution styles in managing stress and supporting loved ones through challenging times, especially for young adults navigating complex personal relationships.

## Image Attributions

Figure SUP WB.11. [A group of friends of varying genders making a toast](#) by [Vice Gender Spectrum Collection](#) is licensed under a [CC BY-NC-ND 4.0 license](#).

# WB.35: Deep Dive - Social Support Strengthens Immune System

Approximate reading time: 1 minute



*Figure SUP WB.12. Social support. Mother elephant gives closeness and social support to her baby.*

Even in nonhuman animals, species mates can offer social support during times of stress. For example, elephants seem to be able to sense when other elephants are stressed and will often comfort them with physical contact — such as a trunk touch — or an empathetic vocal response (Krumboltz, 2014). This aspect of social support is not just emotional but also physiological, as it can boost the immune system. When we receive support, especially in stressful situations, our body's defense mechanisms are strengthened, enhancing our ability to ward off illnesses.

## Image Attributions

Figure SUP WB.12. [Photo](#) by [David Heiling](#) on [Unsplash](#)

# WB.36: Deep Dive - Biofeedback for Stress Management

Approximate reading time: 2 minutes



*Figure SUP WB.13. Biofeedback. Biofeedback can be an effective way to learn to relax and reduce stress.*

Another technique to combat stress, biofeedback, was developed by Gary Schwartz at Harvard University in the early 1970s. Biofeedback is a technique that uses electronic equipment to measure a person's neuromuscular and autonomic activity. Neuromuscular activity refers to the functioning of muscles and the nerves that control them, while autonomic activity relates to the part of the nervous system that controls involuntary bodily functions like heart rate and digestion. Feedback is provided in the form of visual or auditory signals. The main assumption of this approach is that providing biofeedback enables the individual to develop strategies for gaining voluntary control over these normally involuntary bodily processes (Schwartz & Schwartz, 1995). It has been applied successfully with individuals experiencing tension headaches, high blood pressure, asthma, and phobias (Stein, 2001).

## Image Attributions

Figure SUP WB.13. Biofeedback by Rachel Lu is licensed under a [CC BY-NC-SA license](#).

# CHAPTER 18. PSYCHOLOGICAL DISORDERS

# PD.1: Deep Dive - Practice Applying the Criteria for Psychological Disorders: Four case studies

Approximate reading time: 5 minutes

## Case 1: Ling

Ling has developed an intense fear of crowded places, significantly disrupting her daily life. This fear is irrational and overwhelming, preventing her from engaging in activities she once enjoyed. Despite understanding that her fear is disproportionate to the actual threat posed by crowds, Ling cannot control her anxiety. This leads her to avoid social gatherings and even quit her job after encountering a spider at her workplace. Ling's case illustrates significant disturbances in thoughts and behaviours due to a psychological dysfunction.

## Case 2: Taylor

Taylor experiences auditory hallucinations; they hear voices that others cannot, which instruct them to avoid people because they are harmful. These hallucinations have caused Taylor to isolate themselves from friends and family, leading to significant distress and difficulty in maintaining employment. The presence of hallucinations suggests a deeper psychological issue, likely related to brain function. Taylor's case highlights both significant disturbances in perception and the impact of these disturbances on their ability to function in daily life.

## Case 3: Rahul

Rahul is deeply saddened, and has withdrawn from social activities following the loss of his beloved pet. While his grief is profound, it does not interfere with his ability to function at work or manage daily responsibilities. Rahul's feelings and behaviors, though intense, are a natural response to loss and are not indicative of a psychological disorder. His case demonstrates significant disturbances in feelings and behaviours but does not reflect a psychological dysfunction or a departure from culturally approved responses to events.

## Case 4: Patrick

Patrick has been struggling with severe mood swings for the past year, experiencing periods of extreme happiness followed by sudden, intense sadness without any apparent reason. These mood changes are unpredictable and have

caused significant distress, affecting his job performance and relationships. Patrick often feels out of control and is confused by his emotional state, leading him to isolate himself from his social circles. Despite understanding that his reactions are unusual, he finds it difficult to seek help. Patrick's condition indicates a psychological dysfunction that disrupts his daily life, is not a response to any particular life event, and leads to considerable distress and functional impairment.

Table SUP PD.1. Your diagnosis: Check off all criteria met for each case study

Criteria	Description	Case Study 1: Ling	Case Study 2: Taylor	Case Study 3: Rahul	Case Study 4: Patrick
1. There are significant disturbances in thoughts, feelings, and behaviours.	A person experiences and shows thoughts, feelings, and actions that are very unusual in a negative way.				
2. The disturbances reflect some kind of biological, psychological, or developmental dysfunction.	These unusual thoughts, feelings, and actions come from problems within the person's body or mind.				
3. The disturbances lead to significant distress or disability in one's life.	The person's life is greatly affected, making it hard to live normally.				
4. The disturbances do not reflect expected or culturally approved responses to certain events.	The person's reactions are not normal responses to life events.				

## Spoiler Alert: Answer Key for All Four Cases

### Case 1: Ling

Meets Criteria 1: Ling's intense fear of crowded places and avoidance of social gatherings indicate significant disturbances in thoughts and behaviors.

Meets Criteria 2: The irrational nature of Ling's fear, despite her understanding of its disproportion to the actual threat, suggests a psychological dysfunction.

## Case 2: Taylor

Meets Criteria 1: Taylor's auditory hallucinations and instructions from voices that others cannot hear indicate significant disturbances in perceptions and behaviours.

Meets Criteria 2: The hallucinations suggest a deeper psychological issue, likely related to brain function, indicating a psychological dysfunction.

Meets Criteria 3: Taylor's isolation from friends and family and difficulty maintaining employment demonstrate significant distress and functional impairment in daily life.

## Case 3: Rahul

Meets Criteria 1: Rahul's profound grief and withdrawal from social activities following the loss of his beloved pet indicate significant disturbances in feelings and behaviours.

Meets Criteria 4: However, Rahul's reactions are natural responses to loss, align with culturally approved responses to such events, and do not indicate a psychological disorder.

## Case 4: Patrick

Meets Criteria 1: Patrick's severe mood swings and the unpredictable nature of his emotional state indicate significant disturbances in feelings and behaviours.

Meets Criteria 2: The unpredictability and severity of Patrick's mood swings, along with his confusion and feelings of being out of control, suggest a psychological dysfunction.

Meets Criteria 3: The distress caused by his mood swings, along with the impact on his job performance and relationships, demonstrate significant distress and functional impairment in daily life.

Meets Criteria 4: Patrick's condition is not a response to any particular life event and leads to behaviours and emotional states that are not culturally approved or expected, indicating disturbances that are not normal responses to life events.

# PD.2: Case Study - Explaining the Diathesis-Stress Model: Emma's Story

Approximate reading time: 2 minutes

Emma, a 25-year-old graphic designer, has always been a bit more anxious than her peers, a trait she recognizes in her mother as well. This underlying anxiety, or diathesis, made her more sensitive to stress. Despite this, she managed well until a series of stressful events unfolded over a short period. Emma went through a difficult breakup, faced a sudden layoff from her job, and then experienced the loss of a close family member.

These events, acting as significant stress factors, intensified her anxiety to levels she had never experienced before. She found herself unable to cope with daily tasks, withdrawing from social activities, and struggling with constant worry and panic attacks. Emma's story illustrates the diathesis-stress model (Zuckerman, 1999), showing how her predisposition to anxiety combined with acute life stressors led to the development of a more severe anxiety disorder. Her case underscores the importance of understanding both the biological and environmental contributions to psychological disorders.

# About the Author

## Author

**Jessica Motherwell McFarlane, Ph.D.**

JUSTICE INSTITUTION OF BRITISH COLUMBIA

I am an uninvited guest working and living on the stolen territories of the xʷməθkʷəy̓əm (Musqueam), Skwxwú7mesh-ulh Temíxw (Squamish), and sə́lilwətaʔt̓ təməxʷ (Tsleil-Waututh) peoples. My ancestors were Celtic, British, and Germanic. As I a white, heterosexual, cisgender, able-bodied, healthy, middle class woman, I am committed to increasing my awareness of my advantages in life and using my privilege to benefit others. I have more than 30 years experience as a feminist scholar, instructor, researcher, and counsellor with a specialization in women's development, gender, EDI and decolonization. I am the program developer and director of *Life Outside the Box* — a JIBC initiative — that focuses on using visual narratives (stick figure comics) to teach about oppression, anti-oppression best practices, and other social justice learning issues. I am a deeply spiritual, Nature-loving, Unitarian Universalist. My spiritual and religious beliefs inform my values around protecting the Earth; honouring the inherent worth and dignity of each person; committing myself to ending oppressive systems and actions; and supporting the rights of 2SLGBTQIA+ people. I have a fundamental commitment to conducting myself with supreme kindness and radical inclusivity in all my relationships. I adore spending time around children and babies which was one of the reasons I chose to earn a Ph.D. in developmental psychology. I have been honoured to teach many hundreds of students in my career — all of whom have taught me about my mistakes, trusted me to improve, and celebrated when I got it right. Every day, I am grateful for my husband, child, family — and cats — who fill my life with adventure, beauty, and love.

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## Sensation and Perception

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## Lifespan Development

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## Motivation

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