

Intro to Psy: Applications

Module 4

Prenatal Development

- Normal human pregnancies last somewhere from 37 to 42 weeks
- Prenatal development is measured based on gestational age
 - Age begins from fertilization
 - Most commonly measured from the last menstrual period
 - Counted as 2 weeks longer because fertilization happens 2 weeks after last menstrual period
 - Used more often since women know when their last menstrual period should occur, and women won't know when fertilization occurs
- 3 different periods of baby development; Period of the zygote, period of the embryo, and period of the fetus.
 - Periods of baby development are not divided based on time/age rather its based on the changes and development of the baby.

Period of the Zygote

- Day 0-14 (2-week period)
 - During ovulation, egg is released from ovary into the fallopian tube
 - At this time, the egg can be fertilized by sperm which will count as day 1 of gestation or day 14 of a pregnancy if counting from last menstrual period
- Ovum + sperm = Zygote
- Implantation takes about 1 week to complete; marks end of the period of the zygote
 - Zygote takes about a week to travel down the fallopian tube which opens the uterus
 - Then attaches to wall of the uterus and burrows into the uterine lining
 - When zygote fully implanted in the uterine lining, the period of zygote is complete

Period of the Embryo

- Weeks 2-8 (6 week period)
- Brain, organs, and limbs start to form
 - Cardiovascular system, cartilage, kidneys and facial structures
- End: completion of all major structures and organs (complete human form)
- By the end of the period, embryo is about an inch long and weighs 1/7 of an ounce

Formation of Neural Tube during the Period of Embryo

- Important structural development in embryo is formation of neural tube
 - Outer layer of embryo thickens forming two folds with a groove in between them
 - Folds grow together to convert groove into a tube

- Top of the tube swells and eventually forms the brain and the rest of the tube becomes the spinal cord
- By day 5 cranial (brain) neural tube closes and by day 28 the caudal or tail (spinal cord) neural tube closes
 - If cranial neural tube fails to close → incomplete or absent brain
 - If caudal neural tube fails to close → spina bifida

Period of the Fetus

- From week 9 to birth
- Rapid growth in body size
- Increase in system complexity and function

Teratogens

- Any environmental agent that causes damage during the prenatal period
 - Can be drugs, alcohol, nicotine, viruses and more
- Worst during sensitive periods
- Longer exposure/higher dose → more harm
- Effects depend on genes, timing, dose, and postnatal environment

Sensitive Periods

- Times in development when the individual is very easily able to change with exposure to a given experience
- Developing baby is most susceptible to damage during embryonic period (more than period of zygote and fetus)
 - Period of very rapid growth, foundations for all major systems laid down
 - If mother was exposed to a teratogen, it is much more likely to cause damage to the baby
- Exposure to teratogens at different times during development will influence which body system is affected and different body systems have different sensitive periods

Birth

- Happens in one of two ways
 - Vaginal delivery via birth canal or Caesarean section (C-section)
 - Head should be in a head-down position, so the head exits first
 - Uterus is a strong muscle and during labor uterus begins contracting leading to dilation of the cervix which is the external opening of the uterus.
 - Uterine contractions will squeeze the baby headfirst through the cervix and through the vagina into the outside world
 - C section delivery involves cutting the abdomen and uterus of the mother to remove the baby
 - No involvement with vagina and cervix

- Can be stressful for baby
 - New environment for the baby
 - Goes from dark, warm environment through a very tight spot (vagina) into a colder, noisier, and brighter environment which they need to breathe to stay alive

Neonate Appearance

- 20" long
- 7.5 lbs
- Large head
- Short, bowed legs
- Cute facial characteristics

The Competent Newborn

- Automatic reflex responses
 - Automatically know reflexes such as sucking, rooting, swallowing and breathing
- Crying
 - Cry to illicit help and comfort
 - Survival mechanism to indicate their needs
- Searches for sights and sounds linked to other humans, especially mother
 - Increase chance of survival since they need someone to care for them
 - Sense of smell is well developed and can use their senses to learn
 - Sense of sight very poor at birth

Preferences

- Newborn babies have a preference at looking to face-like stimuli
 - Have some inborn preference for looking towards faces
- Babies also have preferences for certain smells
 - Such as their mother's breast pads
- Preference of sweet flavours rather than sour or bitter flavours
- Preference of female voices over male voices
 - Preference of mother's language
 - And to music with language rather than just instrumental music

Cognitive Development: Piaget

- Jean Piaget was a swiss psychologist who was immensely interested in the process of cognitive development
 - Interested in how people change in their ways of thinking, understanding, reasoning and using language.
 - Wanted to know what children understood about the world around them
 - His approach heavily centered on studying errors that children make as these could reveal failures to understand or reason about the world around them
 - Major assumption of his work was that children act like scientists

- Children make hypotheses about the world around them, then they test it

Piaget's Stages of Cognitive Development

- Sensorimotor Intelligence (birth-2 years)
- Preoperational thought (2-7 years)
- Concrete operational (7-11 years)
- Formal Operational (11/12 years)

His theory was flawed because he only believed that cognitive changes and development only occurred in childhood which is not the case. Modern research shows that cognitive changes occur throughout our life (from birth to death)

Major Piagetian Concepts

- Psychological frameworks that change with age and allow the child to make sense of experiences and organize their knowledge of the world.
- He proposed that schemas can change to adapt to the world through interaction with the world
 - A child might assimilate new information into an existing schema or might accommodate and create a new schema to make sense of new information that didn't fit into their old framework
 - **Assimilate** refers to using our current schemes to interpret the external world.
 - **Accommodation** refers to creating new schemes or changing old ones after noticing that our current way of thinking don't fit the environment that well
- Schemas:
 - Change through **assimilation** and **accommodation**

A Truly Developmental Theory

- Piaget's theory was truly developmental
 - He proposed that children must pass through all stages in the same order
 - Outlined that these stages are discontinuous.

The Sensorimotor Period

- From birth to 2 years
- Huge changes
 - Reflexive behaviour → simple symbolic thought, goal-directed behaviour
- Circular reactions
 - Body-centred → object-centred → environment experiments
 - Do an action by mistake then repeat it to build a scheme
- Object permanence
 - Develops earlier than Piaget thought

The Preoperational Period

- 2-7 years
- Defining characteristic of this stage is the development of thinking skills
- Children start to form strong detailed mental representations of the world
- Mental representation
 - Symbolic activity: language, deferred imitation, make-believe play
 - Centration, fooled by appearances, egocentric
 - Unaware of perspectives other than their own
 - Real world application of egocentrism in children during this period is when they play hide-and-seek, they cover their own eyes thinking that if they can't see us we can't see them.
 - Poor conservation skills
 - They think if one flask is taller even if its thinner it contains more liquid than the flask that's thicker and shorter
 - Don't understand that things may be constant while looking different (thin tall flask = short thick flask)

The Concrete Operational Period

- Can now think logically as long as events are concrete or based in the real world
 - Successful conservation
 - Less fooled by appearances as they can logically work through the changes that led to those changes in appearance
- Still have trouble with theoretical and abstract reasoning
 - Reasoning is limited to concrete examples
- Example is transitive inference
 - can solve them if they involve pictures but they cant solve them with words

The Formal Operational Period

- characterized by flexible and abstract reasoning, multiple possibilities for the solution to a problem
- able to reason about hypothetical/imaginary statements

Evaluating Piaget's Ideas

Contributions:

- children as active seekers of knowledge
- development is sequential
- errors provide clues about thinking

Problems:

- most skills develop earlier than he said
- continuous rather than stage-like
- little consideration of social impacts

Moral Development

- **Developing reasoning power: Piaget**
 - Develop new abstract thinking tools (formal operations)
 - Reason logically and develop moral judgement
- **Developing moral reasoning: Kohlberg**
 - Use moral reasoning that develops in universal sequence to guide moral actions

Kohlberg's Levels of Moral Thinking

Level	Focus	Example
Preconventional Morality	Self-interest; obey rules to avoid punishment or gain concrete rewards	"if you save your dying wife, you'll be a hero"
Conventional Morality	Uphold laws and rules to gain social approval or maintain social order	"if you steal the drug for her, everyone will think you're a criminal"
Post conventional Morality	Actions reflect belief in basic rights and self-defined ethical principles	"People have a right to live"

Develop from preconventional to conventional to post conventional

Vignette is a moral or ethical story which tests people's responses on whether the actions of character (in story) is moral or not.

Moral Judgement Study

- A study was made regarding involving participants to judge how morally wrong the vignette story was
 - Judged the character in vignette story using a line scale indicating one side as "not so morally wrong" and the other side indicated it being "extremely morally wrong"
 - But before they given the scale to judge participants were given either bitter, neutral or sweet drinks
 - Participants who drank a bitter drink gave harsher responses on their moral judgement
 - Bitter drink activated a disgust response which made them harsher in judging the morality of the character in the vignette.
 - Neutral and sweet drinks gave their participants the same response

Attachment

Babies need Help

- Babies are born completely dependent and always needs someone to take care of them
 - Adaptive to create strong emotional bonds with people
 - In order for them to have a better chance at survival

- Many researchers have studied these emotional bonds

Konrad Lorenz

- Earliest work on attachment and bonding was tested on animals, not humans
- He was an ethologist who did a lot of observational work with animals
 - Learned that newborn goslings always followed objects that are bigger than them
 - Goslings see mother when they are born (mother much bigger) and follow her
 - Adaptive behaviour because most likely they would see their parent first when they are born
 - Increases their chances of surviving if they followed the mother (adaptive behaviour)

Harry Harlow

- A researcher who studied attachment in non-human primates, mainly monkeys
- He hypothesized that animals formed attachment with their caregivers to meet their biological needs
 - Such as getting food
- His work would no longer be allowed under ethical guidelines
 - However, those ethical guidelines were put in place after his studies and research
- His research was based on taking monkeys away from their mothers and tested if they would be attached with a wired mom that gave food or a soft clothed mother that gave milk
 - Monkeys became attached to soft clothed mother because attachment wasn't just resulting from a need for food but also involves contact comfort

John Bowlby and Mary Ainsworth

- First to study attachment in humans
- Developed a paradigm called the strange situation
 - Secure
 - Insecure
 - Insecure-resistant
 - Insecure-avoidant
 - Disorganized
- Different types of attachment emerged from different types of parenting
- Vast majority of children were securely attached
 - Ainsworth said that sensitive caring parents foster secure attachments

Social Development in Adolescence

Physiological Changes in Adolescence

- Adolescence is a period of very rapid change

- Changes can happen in physiological ways and social ways
- Major physiological visible changes occur in body during puberty
 - Also, massive change in the brain
- Main areas of development during this period occur in the frontal lobes
 - Specifically in the prefrontal cortex
 - Development in this area shows teen's improvement in their executive functions such as planning, task switching, impulse control, and making complicated decisions
- Since this area is still developing throughout adolescence and into early adulthood, these are skills that young teens struggle with

Social Changes in Adolescence

- During this phase of development, teens begin to spend more time with their peers than with their parents
- Figuring out who they are and where they fit in the world
 - Peer groups can have an impact on these feelings
- Shift away from same gendered groups to peer groups including both genders
- Teens now have broader groups to give advice, model behaviour and develop goals with
- Parents tend to be more important when it comes to education, discipline, responsibility, orderliness and ways of interacting with authority
 - While peers have more impact on learning cooperation, road to popularity, and inventing styles of interaction among people of the same age

Social Thinking in Adolescence

- Adolescent egocentrism (feel like they have center of attention)
- 2 major factors
 - Imaginary audience
 - sense that teens have that feel like everyone is watching them.
 - Think they have attentive audience and judging their every move
 - Personal fable
 - Think of themselves as being completely unique from others
 - Lead to risk-taking behaviour since teenager might think that their specialness makes them less at risk than the general population

Emerging Adulthood

- Age 18 to mid-20s
- "in between" feeling
 - Still don't take responsibility of adulthood yet we feel ready
 - Leading to a feeling of "in-betweenness"
- Mainly a western cultural pattern, recent increase in length
 - Since many adults not being settled and not yet fully taking on adult status until their 30's

Adulthood: Aging and Memory

- **Early adulthood:** 20s/30s
 - Peak time for some learning and memory to occur
- **Middle adulthood:** 30s – 65
 - Associated with declines in the ability to recall but relative maintenance of recognition memory
- **Late adulthood:** over 65
 - Characterized by better retention of meaningful information compared to meaningless information
 - Slower processing of information

However, highest level of expertise is in mid to late adulthood since people spent their life learning about a career or an interest and that knowledge peaks late in adulthood.

Alzheimer's Disease

Physiology

- Marked by neural plaques, often with an onset after 80

Disease Progression

- Memory, then reasoning, deteriorates. Eventually unable to perform self-care.
- Cognitive processes such as emotional processing and behaviour inhibition also deteriorate.

Adulthood: Changes and Commitments

- Transitions
 - Fairly independent life (early adulthood) to a life with long-term commitments (wife, children, career) to late adulthood where children leave the parental home and adults retire
- Commitments
 - Long term commitment with spouse when forming a family
 - Professional commitment at work

Well-Being Across the Life Span

- As adulthood progresses
 - More positive feelings
 - Fewer negative emotions
 - According to study, older people become less angry
 - Less stress and worry
 - Fewer relationship problems
- At all ages, people are happiest when they are not alone

Methods of Development

Researchers must be creative

What do babies like?

- **High amplitude sucking paradigm**
 - Often used to test which auditory stimuli babies prefer

- Babies like to suck on pacifiers and pacifiers has sensors on them to track when and how frequently the sucks
 - Music is played when they suck and babies then decide if they prefer that music if they keep sucking (even suck harder) or not if they stop sucking
- **Habituation method**
 - This setup involves a parent sitting in a darkened room with an infant on their lap looking off into the distance.
 - From the infant's perspective, there is a screen with an image projected on it.
 - Image shown on screen until baby is bored and looks away trying to find something more interesting
 - Image then is changed slightly attempting to catch the baby's attention, if not still interested, baby still looks for something more interesting
 - Determines if babies can see difference between two stimuli
- **Preferential looking**
 - Presents two images (stimuli) to baby at the same time on different screens for 20 seconds
 - Using video recording, tracks which screen the infant looks at
 - Usually, infant should look at both screens 50/50, but if an infant looks at one screen for longer than 50% of the time
 - Baby finds that stimulus more interesting than the other

Measuring Changes With Age

- Longitudinal design
 - Same people studied over a period
 - Idea is that you can see the pattern of change within individuals to get a sense of how this ability changes with age
 - Very hard to get accurate representation because people might get bored, uninterested or forget to be part of the study
 - Also takes a very long time to get the results
- Cross-sectional design
 - An alternative for longitudinal design
 - People of varying ages studied simultaneously
 - Measuring different people of different ages all at the same time
 - Ex: measure reaction time of five-, ten-, fifteen- and twenty-year-olds
 - If you see differences in reaction time, it can be assumed that those differences are because of the difference in age
 - Major drawback because people are different and have different life experiences and results aren't solely based on the factor of age

Cross-sectional vs Longitudinal

- Drop-outs (attrition) (longitudinal)
- Length of study (longitudinal)

- Different life experiences (cross-sectional)
 - Cohort effects

Module 10

Introduction to Intelligence

What is intelligence?

- Culturally important
- But what is it?
 - Many vs single?
 - Knowledge vs tools?
 - Practical vs book smarts?

The Flynn Effect

- Intelligence is usually measured by IQ tests where IQ is short for intelligence quotient.
- Average intelligence of the population is standardized at a score of 100.
- James Flynn caused a controversy when he presented data showing that the mean (average) intelligence of the population has been increasing across decades of the 20th century.
 - This phenomenon is called the **Flynn effect**

Possible reasons for the Flynn effect

- Better **nutrition and health care**
 - Healthier brains and bodies leading to better cognitive abilities → higher IQ
- Better **education**, more abstract thinking, and knowledge of science
 - Good education and more people become educated, adapt to abstract way of thinking needed in IQ tests → higher IQ
- Increasing **complexity** of our environment
 - Increase in complexity led to improvements in working memory and attention → higher IQ

Sir Francis Galton

- A psychologist and statistician working in the late 1800s
- Empirical, precise measures
- Galton proposed that general cognitive ability (g) was the product of:
 - Inheritance
 - Use of senses
- No correlation with school performance
 - No validity

Simon and Binet

- In 1900s, researchers Simon and Binet proposed a different way of assessing intelligence

- Developed to place students in grades and identify need for additional support
 - School performance could benefit from additional instruction
 - Weak academically could get additional teaching support
- Cognitive measures, not physical ones
 - **Direction:** ability to know what to do and how to do it
 - **Adaptation:** ability to create strategies for implementing your knowledge and monitoring its progress
 - **Criticism:** ability to step back and find errors in ones thinking
- Tests difficulty increased with age
 - Since older kids adapted stronger cognitive skills

Stanford-Binet

- Lewis Turman translated Simon and Binet's test from French to English and Americanised it by adding American cultural concepts into some of the questions
- IQ: ratio
- This test was renamed the Stanford-Binet test
- Test resulted in normally distributed scores and scores on the test corresponded to teachers' evaluations of children academically
- It became a valid test of intelligence

$$\text{IQ} = (\text{mental age} / \text{chronological age}) \times 100$$

Mental age means raw score on IQ test

The T Test of Intelligence

- Validity
 - Test has poor validity since it has no correspondence to intelligence
- Reliability
 - Unreliable since the scores aren't consistent
 - For a test to be reliable, no matter how many times you do it you should always get a very similar score (a consistent score)

Eugenics

- "Good genes"
- Politically: policy of preventing "feebleminded" and other "undesirable" people from breeding
 - Ultimate idea was to improve the quality of humans by ridding us of undesirable traits
- Flawed theory, based on Social Darwinism
 - Which is a misapplication of Charles Darwin's theory of evolution through biological mechanisms to the supposed explanation of evolution through cultural mechanisms
 - Took idea of "survival of the fittest" in a social context
- Founder: Francis Galton

- Other groups have adopted these ideas through history
 - Nazis

Intelligence Testing Across Groups

- Immigrants
 - IQ scores depend on country of origin
 - Different countries have different IQ tests, and each country is biased to their IQ tests by involving questions about their culture and things their citizens may know
- Racial differences
 - Stereotype threat
 - African American low IQ results
 - Have greater pressure to score high on IQ tests to break stereotype
- Gender
 - Many factors at play
 - May have very slight difference, but overall, their intelligence is similar

The Influence of Expectations

- Stereotype threat
 - Decrease stress → decrease effect
 - Increase confidence → decrease effect
- Mindset: Fixed vs Growth
 - Can be taught/fostered
 - Can result in becoming more intelligent with growth mindset

Intelligence Cognitive Ability

- some argue intelligence is one cognitive ability while others argue there are many different types of intelligence

Spearman

- In early 20th century, Spearman argued that there is only one general intelligence
 - He called it (g)
- Agreed that at lower-level individuals could also have specific abilities
 - He called it (s)
- He based his concept of g on the fact that people who got high scores in one area (such as math) tend to get high scores in other areas as well
- Assumes one general intelligence that underlies all of our reasoning ability
- G has a good predictive ability for some aspects of human life
 - Indicating some of spearman's conception of this was correct
- Thurstone was a researcher that argued against the idea of general intelligence suggesting that we instead have specific mental abilities

Fluid Intelligence: general problem-solving ability; independent of content knowledge

Crystallised Intelligence: the specific content knowledge (such as facts) that we can bring to a problem

Other Relevant ideas:

- **Cognitive flexibility:** refers to our ability to apply knowledge; fluid and crystallised intelligence wouldn't do us any good if we can't apply knowledge in the real world
- **Wisdom paradox:** accumulating experience and solving problems develops some sort of cognitive templates that allow older people to recognize patterns in those cognitive problems, even though older people's cognitive ability worsens as they age (make them more wise)

Emotional Intelligence

Scientists propose emotional intelligence has four components:

- **Perceive emotions:** ability to perceive emotions accurately such as in music, in faces or in stories
- **Use emotions:** ability to use emotions to facilitate thought and to enable adaptive or creative thinking
- **Understand emotions:** ability to understand emotions including predicting them, how they change and mix together.
- **Manage emotions:** ability to manage emotions knowing how to express them in varied situations

Multiple Intelligences

- In the 1980s, Gardner proposed that humans have many different types of intelligence that are distinct from one another.
- Most famous theory of his applies in the context of different learning styles that students may have with the idea that classroom teaching approaches should cater to students with different learning styles
- However, those ideas might ring true at first glance, researchers have struggled to demonstrate evidence supporting the idea of different learning styles
- Yet Gardner's theory of multiple intelligences remains an important field of intelligence

Nature vs Nurture

- **Wrong way to approach this question; there is no gene for intelligence. Neither genes or environment are more important when recognizing intelligence**
 - Both equally needed for intelligence
 - Baked cake is a good example
 - Need flour and sugar to bake a cake

- You can't ask if the finished cake is caused more by the flour or the sugar
- Both are necessary ingredients that inextricably combined and thus inseparable in the baked cake
- **How much intelligence is heritable?**
 - Scientists researched this study by analyzing large populations of people rather than a single individual to determine the factors that influence intelligence.

Patterns from Childhood

- Adult IQ correlates with IQ from about age 4 onwards
- Scottish study: measured IQ at age 11 and 90
 - Strong correlations
 - Smarter people live longer and healthier

Study shows very interesting links between IQ and various life outcomes but also makes us realize how complicated it can be to assess how much variability in human characteristics are due to genetic factors.

Nature and Nurture

- **Intelligence is heritable**
 - 50% - 80% of the differences in people's intelligence in whole population is explained by differences in genetics
- **Environment also plays a role**
 - Especially at extreme low
 - Child who experiences extremely impoverished or unengaging environment will see that they are unlikely to flourish in terms of intelligence regardless of the genetic factors
 - Children with malnutrition, social or sensory deprivation
- **Ability + opportunity + motivation = success**

Module 12

What is Personality?

Definition in textbook:

"An enduring set of internally based characteristics that produce uniqueness and consistency in the expression of a person's thoughts and behaviours, along with an explanation to account for these characteristics".

- One's characteristic pattern of thinking, feeling, and behaving

Freud's Psychodynamic Theory

- Freud started as a physician who decided to specialize in what he called nervous disorders.

- Soon realized that many of the nervous disorders his patients exhibited had no organic cause and had no clear physical explanations
- He set out to understand the human psyche
 - Developed the **Psychodynamic theory**
- **Psychodynamic Theory**
 - Most defining characteristic is that it considers behaviour as an interaction between the conscious and unconscious mind.
- Freud believed we can only understand one's behaviour and symptoms by understanding the internal motivation and drives that were active in a person
 - But these motivation and internal drives are not available in the conscious mind
 - Somehow, they needed to be accessed
- He was first to consider the unconscious mind
 - Through his approach of observing patients, he concluded that their problems typically reflected socially unacceptable thoughts and feelings that were hidden in that unconscious mind.
- Freud was a determinist
 - Believed everything has a cause
 - He supposed that psychic energy had causes that we must be able to explain
 - To do this, he had to dig into the unconscious to identify the psychological reasons for these problems
- In Freud's theory, if a person represses an impulse the psychic energy will seek release elsewhere exhibiting in all sorts of odd ways
 - Thus, he needed tools to access the unconscious which is the source of psychic energy.

Freud's Idea of the Mind's Structure

- Based on his interactions with patients, Freud proposed a three-part model of the human psyche
- In his theory, the human psyche is like an iceberg
 - With a small proportion visible above the sea level
 - But majority of the iceberg is invisible (unconscious) below sea level
- Three components of mind:
 - **Conscious**
 - **Pre-conscious**
 - **Unconscious**
- **Conscious mind** is the part of our psyche that we are aware of
 - in Freud's view, it was like the small part of the iceberg that's visible above sea level
 - contents of the conscious mind are readily available to the psyche and make up the content of our mind at the moment
- **Pre-conscious mind** is a part of which we are normally unaware
 - but is accessible to conscious thought
 - such as remembering the name of your 2nd grade teacher

- **Unconscious mind** is the largest part of our psyche
 - Entirely below sea level (in the analogy)
 - Contents are not accessible to conscious thought
- In Freud's theory, for a person to be mentally healthy it's important to explore the contents of the unconscious mind and sort of come to grips with them
 - Because the contents of the unconscious mind are not readily accessible to our conscious mind
 - Special techniques are required to access them
- Freud explored several tools to access the unconscious
 - Hypnosis
 - Free association
 - Dream analysis
- The logic underlying the use of each of these tools is that the contents of the unconscious are the source of psychic tension in the patient
 - But the unconscious is not directly accessible to the conscious mind
 - Thus, these special methods are required to bypass the conscious mind and access the unconscious
- Freud's view of personality has three components that overly the iceberg analogy of conscious, pre-conscious, and unconscious minds
 - Id
 - Ego
 - Superego

Personality Structure According to Freud

- **Id:** Operates on pleasure principle
 - Unconsciously tries to satisfy basic drives
- **Ego:** operates on reality principle
 - Seeks to realistically gratify id's impulses to bring long-term pleasure
- **Superego:** focuses on ideal behaviour
 - Strives for perfection, acts as moral conscious

Defense Mechanisms

- For Freud, anxiety was the product of the tensions between the demand's id and superego
- Ego copes by using unconscious defense mechanisms to reduce/redirect anxiety
- Repression underlies all other defense mechanisms
 - If incomplete, will see evidence through symbols in dreams or slips of the tongue

Freud's Psychosexual Stages

Stage	Focus
Oral (0–18 months)	Pleasure centers on the mouth—sucking, biting, chewing
Anal (18–36 months)	Pleasure focuses on bowel and bladder elimination; coping with demands for control
Phallic (3–6 years)	Pleasure zone is the genitals; coping with incestuous sexual feelings
Latency (6 to puberty)	A phase of dormant sexual feelings
Genital (puberty on)	Maturation of sexual interests

Evaluating Freud in a Modern Context

- **Criticisms**
 - Overemphasized role of sexual motivation virtually ignoring all other sources of motivation
 - Childhood experiences are important, but development is lifelong.
 - Lack scientific approaches
 - Making his work untestable
 - Explanations often came after the fact and did not predict behaviour
 - Ex: a person smoking was a result of child neglect
 - No data supports this
- **Contributions**
 - First discussion of unconscious
 - Consider unconscious processing as automatic information processing that happens without awareness; things like schemas, priming illicit memories and stereotypes
 - Importance of sexuality, motivation, and behaviours
 - Addressing conflict
 - Resolve conflict between biological impulses and social constraints

Neo-analysts

- Carl Jung, Alfred Adler, and Karen Horney built on Freud's structural ideas and therapy approaches
- More emphasis on conscious mind in explaining the human experience
- Less influence on sexual drives as sole motivator of human behaviour

Jung's Analytical Perspective

- Proposed changes in Freud's theory

- **Collective unconscious and Archetypes**
 - Jung proposed that part of the human psyche was sort of a memory system that had been created throughout all human history
 - He proposed as evidence for this shared memory system the fact that the same sorts of stories emerged throughout human history across all different cultures
 - The same main characters and plots appear time after time
 - Called these different characters **Archetypes**

Horney's Interpersonal Perspective

- Feminist views
 - Disagreed that women had a weaker superego than men
 - Freud believed that women experienced penis envy
 - Horney argued this was more about a lack of social power that was afforded to women and that was what the envy was centered on
 - Finally, Horney, Adler and other neo-freudians emphasized the role of social not sexual tensions in guiding development
- Karen Horney argued that people strive for social security to feel loved and accepted in their society
 - If they don't feel secure in this way, they developed a sense of basic anxiety or basic hostility
- These feelings in turn developed into three possible approaches to the world
- Three approaches to reduce anxiety:
 - Moving toward people
 - Entail behaving in a way that would make others like you and accept you
 - Moving away from people
 - Shut down to avoid rejection or emotional pain
 - Withdraw socially and stop reaching out to friends
 - Moving against people
 - Act in socially aggressive or pushy ways to avoid being hurt themselves
 - Ex: bully bullies to be included

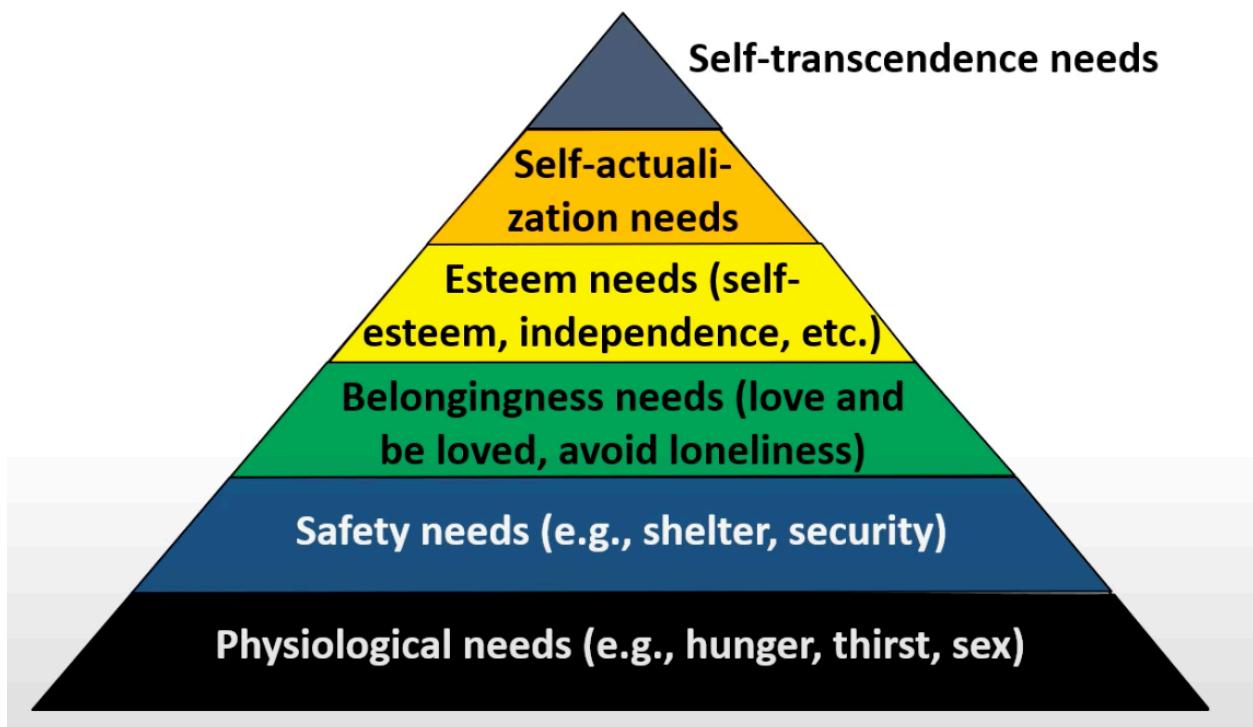
Neo-Freudians Compared to Freud

- Firstly, they shifted control from the unconscious to the conscious mind
- Secondly, deemphasized sex and aggression as all important motivation forces instead of placing more emphasis on other motivations

Maslow's Hierarchy of Needs

- Maslow best known for his hierarchy of needs
 - Proposed that people cannot be motivated to move to a higher level on the model until they've reached lower levels

- His model was centered on this idea of motivation and stated basic drives like physiological and safety needs must be satisfied in order for the person to be motivated to work towards higher levels of achievement like;
 - Belongingness
 - Esteem
 - Self-actualization
- Note that Maslow defines self-actualization as the fulfillment of our own potential and self-transcendence as establishing meaning and purpose beyond the self
 - In Maslow's view, we do not strive to meet esteemed needs until we're no longer hungry.
 - By implication, a person's basic needs must be met before they can shift the focus away from short-term goals and focus on longer-term objectives



Carl Rogers

- Carl Rogers founded the person-centered approach to psychology
 - Believed that people are generally good and will self-actualize unless they're prevented from doing so by the environment
- At the core of personality is the individual's self-concept which is how we describe ourselves to ourselves
- Importance of self-concept
 - **Ideal self:** a view of who we should be
 - **Actual self**

- Self-concept is essentially how we view our actual self-compared to our ideal self
- Motivation stems from self-awareness and self-acceptance
 - We're motivated to figure out the answers to who am I and do I like myself
 - If we have a negative self-concept, then we feel dissatisfied and unhappy because we don't measure up to our ideal self
 - If we have a positive self-concept, we see ourselves in this world more positively

Three Conditions for Growth

- Roger believes that people will self-actualize unless they are prevented from doing so
- Suggested three conditions that are required for healthy personal growth
 - **Genuineness**
 - In Rogers view, our personal growth is fostered when other people are genuine
 - When they're open and honest about their perspectives and their personal stories
 - Presenting an honest version of themselves to the world
 - **Acceptance**
 - In Rogers view that personal growth is fostered when other people are accepting when they offer us unconditional positive regard
 - **Unconditional positive regard** is an acknowledgement of the value of a human being no matter who they are
 - being in a relationship where there is mutual regard allows you to drop your defenses knowing that you will be valued for being who you are
 - **Empathy**
 - Active sharing of feelings of another person
 - Ex: if a person dies in a protest
 - Understanding the loss of a human life and feeling with their family then that's called empathizing

Social Cognitive Perspective

- Personality develops by noting consequences of our behaviour and reactions of others
 - Develops through our experiences with the world
 - In a variety of situations
 - Leads to the development of individuals differences in personality
 - Attention, perception, and memory processes differ between individuals
- Our own cognitive interpretation of the world drives our personality
- Three theorists
 - Bandura
 - Rotter
 - Mischel

Albert Bandura

- Bandura is the best-known contemporary personality researcher
 - Canadian; born in Alberta
 - Attended University of British Columbia
- His term for this set of cognitive processes that shape personality was the self-system
 - **Self-system**
 - The set of cognitive processes we use to perceive, evaluate, and regulate our own behaviour
 - Key idea is the internalization of knowledge
 - While classical behaviourist learning theory assumes that a person's behaviour changes over time in reaction to the direct effects of reinforcement or punishment
 - Bandura's theory claims that the effects of prior reinforcement are internalized, and the behaviour changes due to changes in the person's knowledge and expectations
 - Because of changes in the self-system
 - Self-system allows us to behave appropriately in social situations
 - Act in such a way as to achieve goals that we might have
 - **Self-efficacy**
 - Your expectation of how competently you'll be able to do the behaviour
 - If you feel like you can successfully do the behaviour, you have high self-efficacy
 - For example, you did well on quiz 1, you probably have a high sense of self-efficacy for quiz 2
 - Sense of self-efficacy determines whether you try a behaviour, how long you persist in the face of difficulty or failure, and how the outcome of your attempts affects your future behaviour
 - Concept of self-efficacy differs from the concept of locus of control
 - Self-efficacy is a belief of our own ability to successfully perform a certain behaviour
 - Whereas locus of control is the belief about the likelihood that performing a certain behaviour affects the outcome

Julian Rotter

- For Julian Rotter, the biggest cognitive aspect of personality was locus of control
 - One's belief about what controls reinforcement
 - Internal vs external
 - People believe that things happen because of something they themselves did (internal locus of control)
 - Or because of something outside of their control (external locus of control)

- People with external locus of control tend to be at risk of maladaptive behaviours
 - Like alcoholism or addiction
 - Less responsible and less able to manage stress
 - More likely to develop a sense of learned helplessness
 - Belief they can't control negative events in their lives
 - Learned helplessness is a risk factor for several psychological disorders

Walter Mischel

- Walter Mischel contributed to the field of personality psychology
 - Best known work derived from marshmallow test
 - Designed to test children's ability to delay gratification to wait for a reward
 - In the standard test, a child is told that the adult must leave the room but will return
 - Before leaving, the adult leaves a marshmallow on the table for the child
 - If the child leaves the marshmallow until the adult returns, then they'll get a reward
 - Opportunity to eat several marshmallows
 - If child could not wait, they just eat the one marshmallow
 - Mischel measured how long kids wait until eating the marshmallow and used that as a measure of their ability to delay gratification
 - Mischel studied these children as they aged and found that their ability to delay gratification was associated with all sorts of life outcomes
 - Kids who waited longer were more successful in school, more mature and they handled stress better
 - Less likely for criminal record and had better overall health

Behavioural Genetics

- Field of behavioural genetics looks at the impact of genetics on behaviour
- In the context of personality, behavioural genetics investigates the way that inherited characteristics that is genetic material interact with environmental factors
 - i.e., our experiences and culture
- This approach does not look at the individual as it doesn't make sense to ask whether a person is a consequence of their genes or their environment but instead focuses on the group level looking for large-scale patterns

Twin Studies

- Most common approaches are to compare similarities in personality in twins
 - Compare identical twins who share all their genetic material
 - Compare fraternal who share about half of their genetic material

- General logic is that if genes play a big role in a characteristic, we should observe that the characteristic is more similar among identical twins
 - In personality, might be assessed in terms of personality traits
 - Responses to personality tests are compared across many sets of monozygotic and dizygotic twins that were raised together
- When personality traits are more similar from monozygotic twins than dizygotic twins, its assumed that the size of the differences represents the level of **heritability** of the trait that's be assessed
 - Heritability means the amount of difference that can be explained by genes
- If heritability is one, all individual differences are explained by genes
- If heritability is zero, no individual differences are explained by genes
- Another approach is to compare similarities in personality characteristics between identical twins raised separately
 - Difficult to find people who fall into this category
 - Identical twins who were raised separately but who know that they have an identical twin and both twins are willing to participate in the study
 - If we can find enough people who fit this mold, we can look for similarities in their personalities
 - General idea being that similarities are driven by genetic factors since they've experienced different environments
 - There are drawbacks to this logic but it can be informative at least as part of the story of inheritance of personality

Neurological Factors

- **Hormones and neurotransmitters**
 - For example, high testosterone in males is associated with aggression while lower levels are associated with better quality parenting
 - Low levels of serotonin and neurotransmitter are associated with risk taking
- **Brain structures**
 - Sensation seeking
- **Neurological activity**

Evolutionary Perspective

- This perspective aims to understand how personality characteristics may be adaptive (how they might aid in survival or reproduction)
 - **Conscientiousness**
 - Personality trait that has been shown to correlate with survival
 - People who score high on conscientiousness on personality tests tend to take fewer risks and better care for their health
 - **Optimism**
 - Help people recover more quickly from stressful experiences or physical harm

- **Neuroticism**
 - People who score high on measures of neuroticism tend to be at higher risk of cardiovascular disease

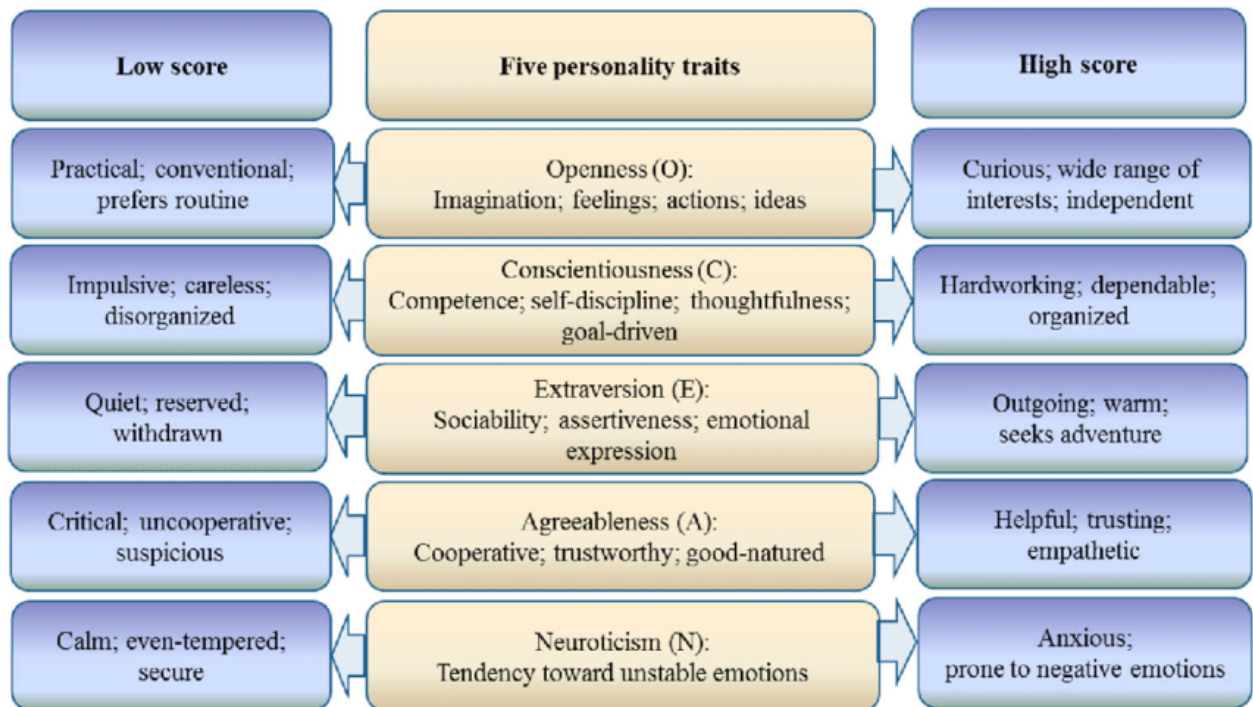
Trait Approach

- Most comfortable and logical approach to personality
- When describing personality of ourselves or someone else, we often fall back to the trait approach and use traits and characteristics to describe the personality of an individual such as the ones listed:
 - Quiet
 - Outgoing
 - Reliable
 - Kind
 - Reserved
 - Smart
 - Funny
 - Timid

How many traits?

- How many characteristics needed to capture the critical characteristics of a person
- Researchers have varied in their answer with this
 - Some suggesting we only need to identify two traits
 - Other saying need as many as 20
- **Two trait models**
 - **Eysenk: 3 factors**
 - **Extraversion – introversion**
 - Essentially differentiates whether people like spending time around others or prefer to be alone and are emotionally controlled
 - **Neuroticism - emotional stability**
 - Differentiates whether individuals tend to be moody and anxious or being emotionally stable
 - **Psychoticism – impulse control**
 - Individuals who score high in psychoticism tend to be impulsive and anti-social
 - While those who score high on impulse control tend to be sensitive and care about others
 - **Five Factor aka Ocean Model (most influential and accepted trait model)**
 - **First letter of each trait makes up the word Ocean**
 - Openness
 - Conscientiousness
 - Extraversion
 - Agreeableness

- Neuroticism



Module 13

Social Psychology

- Uses scientific methods to understand how we think about, influence, and relate to one another
- Studies all aspects of human behaviour in social situations
- Social psychologists often investigate or manipulate social influences to explain why the same person will act differently in different situations

Attribution Theory

- Tries to explain how people make judgements about the causes of other people's behaviour
- Through research on attribution theory, scientists discovered bias in the ways we make these judgements
 - A common bias is that people often attribute other people's behaviour to their dispositions but give an environmental reason for their own behaviour
 - When explaining our own behaviour, we are sensitive to how our behaviour changes with the situation, however that's not the case when explaining someone else's behaviour

- **Ex:** you arrive late to a date and blame it on traffic, but when your date arrives late you may assume they're irresponsible or inconsiderate of your time
 - You interpret the same behaviour according to a stable trait for other people while allowing for situational excuses to explain your own behaviour
- **Fundamental Attribution Error**
 - Pattern of judging others behaviour as being caused by internal or dispositional factors while judging ours as being caused by external or situation factors

Fundamental Attribution Error

- Fundamental attribution error is common and harmful when a stranger behaves badly
 - We tend to judge people particularly harshly in this situation
- **Self-serving bias in the Fundamental Attribution Error**
 - When judging others, we attribute positive outcomes to luck or external events
 - Ex: Trudeau won election not because he ran a good campaign but because of his political connections
 - But we attribute negative outcomes to the personality or the choices that person made
 - Ex: We judge homeless person on the street is homeless because he wasn't responsible with his money
 - We see opposite patterns of judgements for ourselves
 - We give ourselves credit for doing well and we blame the situation for doing poorly

Impression Formation

- First impression is key
- First impression is powerful
 - Impression carries a lot of weight in our later judgements of the person
 - **Confirmation bias**
 - Once we've formed that impression, it can be easy to fall into the habit of noticing traits or behaviours that are consistent with that impression
 - Not notice or remember things that are inconsistent with the impression

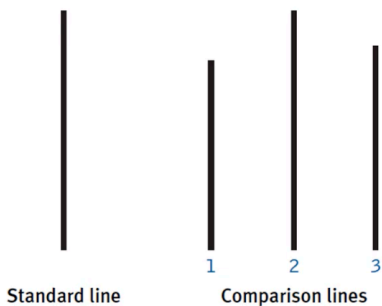
Social Norms

- We learn the rules of society and how to behave accordingly and follow them
- Change in different contexts, social settings, societies, and times
- A given behaviour is expected in certain settings and behaving in ways contrary to that makes us at least uncomfortable and may even lead to ridicule or social exclusion
- Imagine...
 - Getting on half-full a bus and asking someone for their seat
 - Entering an elevator and standing backwards
 - Sitting in an empty chair at an occupied table at a restaurant
- The idea of these examples is socially unacceptable since they go against social norms

- These are things that we learn with exposure to society
- If travelled to countries with different cultural norms, you've probably worked to learn those norms or acted in a way that is out of the norm in that country
- When in a situation where we don't know the norms, we observe the behaviour of others to figure out the appropriate way to behave

Conformity

- In the 1950's, Solomon Ash developed research to study conformity
 - Conformity
 - How people change their behaviour to be in line with others



- In his design, Ash made use of confederates' people who were actors in on the experiment.
 - Participants were brought into the lab and given a visual decision task
 - They were shown an image (like the one above) and asked which of the three comparison lines is equal to the standard line
 - Manipulation occurred when the actors gave the wrong answer and the participant felt discomfort and paid more attention to the lines to see if he was missing something.
 - Ash was interested in how the answers of others pressured them to change the perception that they reported
 - On the trials where the confederates were giving the wrong answer, the participant must decide whether he'll answer in line with the rest of the group or whether he will answer correctly
 - Ash found that people were heavily influenced by the desire to agree with the group
 - 75% of participants stated a wrong comparison at least once in the study

When Are People Most Likely to Conform?

- They feel incompetent/insecure
- Their group has at least 3 people (relatively large group)
- Everyone else agrees
- They admire the group
 - Group has people they look up to or have respect for

- They haven't already committed to another response
- They know they're being watched
- Their culture encourages respect for social standards

Obedience to Authority

- Another situation that has been heavily investigated in social psychology is that how and why people will obey a figure of authority
- This research grew out of questions about why so many Nazis acted in such horrendous ways during the Second World War
- Social psychologists thought that running experiments on situations that required obedience to a person in charge could help understand and prevent future holocausts
- Stanley Milgram designed a series of studies to investigate obedience to authority
 - Milgram had participants come into the lab
 - They were told that there was a learner who they needed to teach
 - The learner was given a series of things to remember and if they made a mistake, the participant was to give them a shock
 - Shocks increased in intensity with the number of errors the learner made
 - However, nobody was being shocked, participants were told that they were shocking the learner.
 - There were a series of controls that they handled to apparently deliver these shocks and they could hear the learner reacting, but the learner was an actor
 - Milgram asked psychologists to predict the outcome of the study
 - They predicted that participants would rarely give a shock that would harm the learner
 - Results showed that they were drastically wrong
 - 65% of participants obeyed the instructions fully
 - Despite the learner telling them they had a heart condition which could increase the risk of death and hearing agonizing protests from the learner after 330 volts
- From this study we learn that people obey orders even when they think they're harming another person
- Strong social influences can make ordinary people conform to falsehoods or exhibit cruel behaviour
- In any society, great evil acts often grow out of people's compliance with lesser evils
 - Started by giving smaller shocks and gradually working up in intensity
 - Participants were eventually giving what they believe to be harmful shocks

When Was Obedience Highest?

- Person giving orders was nearby and was perceived as a legitimate authority figure
- Research was supported by a prestigious institution
- Victim was depersonalized or at a distance
- There were no role models for defiance

Antisocial Relations

Prejudice

- Means “prejudgement”
- Is an unjustified negative attitude toward some group and its members
- Often targets different cultural, ethnic, or gender group
 - Examples are racism, sexism, and ageism
 - When someone acts on prejudice, they are discriminating
- Prejudice relates to the internal components of the attitude (cognitive and emotional aspects)
 - While discrimination pertains to the action component (behaviour)

Components

- Beliefs (stereotypes)
 - Stereotypes are not always antisocial
 - These are ways in categorizing people that allows for quick processing or organization of the social world
 - Can hold positive stereotypes like the belief that all boys are good at sports
 - Can hold negative stereotypes like the belief that all old people are bad drivers
- Emotions

Predisposition to behave (to discriminate)

How Prejudiced are People?

- Explicit prejudice in North America has decreased over time, however still present in our lives
 - E.g., less racial segregation (no longer exists systemically), more acceptance of interracial dating
 - But prejudice against BIPOC
- Lots of implicit prejudice as well
 - Dr. Li often asked if he speaks English

Altruism

- An unselfish concern for the welfare of others without the expectation of anything in return
 - Examples of altruistic behaviours
 - Help an elderly stranger carry their heavy grocery bags
 - Give homeless person some money
 - Grab someone’s child before they run out on a busy street
- A type of altruism where there’s a sort of score or record is called **reciprocal altruism**
 - Example:
 - Scratch my back and I’ll do your chores
 - It is not true pure altruism although it can be hard to discriminate between the two by observation alone.

- **When do we help others?**
 - Notice a need for help
 - Interpret it as an emergency
 - Assume responsibility for helping
 - Consider person deserving of our help
- Helping increases happiness and happiness increases helpfulness
 - Forms a cycle between happiness and helpfulness

The Norms for Helping

- **We learn we are socially expected to help**
 - Social expectation that prescribes how we should behave
- **Reciprocity norm**
 - Help others and expect help in return
 - Important in long-term relationships with people
 - If one person was the giver and never received anything, the relationship is unbalanced and is not likely to last
- These and other social norms encourage generosity and enable us to live successfully in groups as is required in our society

Module 14

Introduction to Psychological Disorders (also called abnormal psychology)

- Implying that in identifying what constitutes a psychological disorder
 - We must differentiate between normal and abnormal behaviour
 - What is normal depends on the situation, individual and culture
 - A better way of identifying whether something is a disorder is instead to classify whether it interferes with the person's day-to-day life
- This is the approach taken to diagnose and classify psychological disorders according to psychologists and psychiatrists
- What constitutes **psychological disorders**?
 - The American Psychological Association lists a psychological disorder as a clinically significant disturbance in an individual's cognition, emotion regulation, or behaviour
 - It's not always easy to define what constitutes a significant disturbance
 - Good definition for psychological disorders
- In lay terms, a psychological disorder is the experience of thoughts, emotions, or behaviours that interfere with everyday life

Personal Classification: The Four Ds

- **How do experts decide whether someone is experiencing a psychological disorder?**
 - One option is to look at the four D's
 - **Deviance:** whether behaviour is unusual or abnormal

- Might say a behaviour is culturally deviant
 - For example, driving in Canada without a seatbelt on
 - Another example, perhaps not understanding the perspective of others
- Somethings can be considered deviant and not being a disorder, thus analyzing distress
- **Distress:** whether causes behaviours or thoughts that cause suffering or emotional upset.
- **Dysfunction:** whether behaviour or thoughts are disruptive to the person's regular routine or interfere with day-to-day functioning
 - Is a person so worried about social interaction that they avoid leaving the house, preventing them from going to work?
 - if so, the worry they are experiencing would be dysfunctional
- **Danger:** whether the behaviour or thoughts are dangerous
 - Whether they might lead to harm to the individual or to others
- **Consistency:** final aspect that psychologists consider is how consistent the thoughts, feelings, or behaviours are
 - the more consistent they are, the more likely they are to lead to a diagnosis of psychological disorder
- A psychologist might assess the person's behaviour and experience on each of these

Stigma

- Can be helpful to diagnose an individual with a psychological disorder since it will provide with an access to care
 - Allow them to better understand their experience and receive treatment for their needs
 - Can also induce a sense of stigma
- Traditionally, our culture judges' people with psychological disorders very harshly
 - There's quite a horrific history of how psychological disorders were treated
 - People were restrained
 - Confined to asylums
 - Had questionable interventions like drilling their skull to release evil spirits
- Don't see such treatment in modern society, psychological disorders are still viewed with a lot of stigmas such as disapproval, poor treatment, discrimination, and isolation
 - All of which can lead to the worsening of the disorder and the development of other problems
- Stigma driving mental health and psychological disorders is decreasing but we must do our part to continue this
 - Be careful with the words used for psychological disorders
 - Recognize that these are complex disorders with physiological sources just like physical illnesses

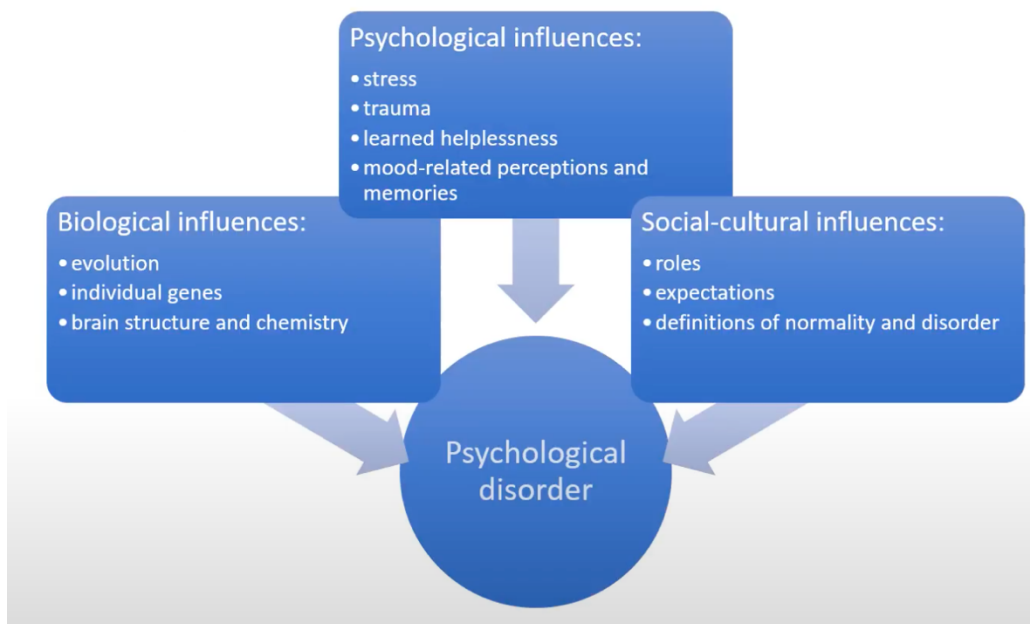
- Take the time to learn about the experience of others who experience these disorders
- These steps can help decrease the stigma and shame that has traditionally surrounded psychological disorders

The Medical Model

- There's quite a horrific history of treatment of psychological disorder in human history
 - Described in terms of people who are institutionalized or put into asylums as well as invasive procedures that were used to try to cure them of psychological effects
- Emerged in 1800s
 - Started to see the medical model taking more of a role in the treatment of psychological disorders
 - Mental illness can be diagnosed on basis of symptoms and treated through therapy
 - The idea with the medical model is that mental problems can be treated in very similar ways to physical problems
 - With emergence of the medical model, we see the emergence of this language that refers to illness, diagnosis and treatment based on a medical setting
 - Talk about cures, treatment, hospitals, and mental health
 - This is a time where we started to see treatment and management of psychological disorders moving forward

Biopsychosocial Approach

- When looking at a more modern approach and the approach that's used today in the field
 - See that experts integrate biological, psychological, and socio-cultural influences
 - Together they form a biopsychosocial approach



Diagnostic and Statistical Manual of Mental Disorders (DSM-5)

- The tool used by clinicians when classifying psychological disorders is the **Diagnostic and Statistical Manual of Mental Disorders** known as the **DSM**.
 - **DSM-5**
 - A book published by the American Psychiatric Association-Fifth Edition and provides lists of characteristics and symptoms that typically occur in given psychological disorders
 - Describes disorders and estimates their occurrence
 - This is the tool clinicians use when they're to classify someone in terms of whether they have a psychological disorder
 - **Changes in Every Newer Edition**
 - In most recent edition, some label changes
 - Examples:
 - Autism spectrum disorder comes with the understanding that autism is a disorder that functions on a spectrum from quite severe to relatively normal functional behaviour
 - New terminology: Shifting mental retardation to intellectual disability
 - Use different language to describe them
 - Lifespan view
 - New disorders and new symptoms
 - Examples:
 - Binge-eating disorder
 - Hoarding disorder

- Representing new patterns of thoughts, emotions, and behaviours that have emerged in modern society
- Subsequently have been included in the DSM-5

DSM-5

- While the DSM-5 provides a sort of series of checklists that clinicians can assess when diagnosing a person, clinicians are cautioned not to use the manual as simply a set of checklists
- Instead, clinicians must form a case formulation
 - An explanation of the individual's mental disorder that is informed by developmental history, relationship status, mental health, cultural background, and any other relevant factors
 - To do this, the clinician will need to do a clinical interview and get to know the client
 - This approach reveals the importance of biopsychosocial approach in modern day clinical psychology approaches
 - Where clinicians consider the whole person in diagnosing and supporting their mental health

Major Classifications of Psychological Disorders

- Neurodevelopmental disorders
- Schizophrenia spectrum and other psychotic disorders
- Bipolar and related disorders
- Anxiety disorders
- Obsessive-compulsive and related disorders
- Trauma and stressor-related disorders
- Dissociative disorders
- Somatic symptom and related disorders
- Feeding and eating disorders
- Personality disorders

Neurodevelopmental Disorders

- Problems with development of nervous system
 - Significant impairment to justify diagnosis
- When we consider these, it's good to consider all thoughts, feelings, and behaviours of which humans are capable:
 - For example, speaking at least one language, performing basic arithmetic calculations, variety of manual skills, maintain friendships and plan for the future
- Considering the huge range of human capabilities, it's incredible that everything works
 - Although each of us likely knows someone who's not very good at maths, languages, or giving directions, in most cases, these deficits aren't serious that they're diagnosable

- In serious cases, neurodevelopmental disorder will be detected when a child's progress is slower or absent in one or more areas
 - For a diagnosis, a significant impairment must be present at the time of diagnosis
- Best known neurodevelopmental disorder is autism spectrum disorder (ASD)
 - Have difficulty expressing emotion or relating to others
 - Might demonstrate repetitive movements, attachment routine, and communication disorders
 - Incidence: 1%
 - Incidence is increasing maybe because we're getting better at diagnosing it.

Schizophrenia Spectrum and Other Psychotic Disorders

- Schizophrenia is a poorly understood condition that can have devastating effects
 - Schizophrenia and other related diseases are classified as serious mental illnesses
- A person with schizophrenia can exhibit positive or negative symptoms
 - **Positive symptoms**
 - **Delusions:** beliefs that are not based in reality, persist even in the face of evidence to the contrary
 - **Ex:** believe that they're being followed by authority figures
 - **Hallucinations:** persistent sensory impressions that are not based in reality
 - Most commonly auditory like hearing voices but can occur in any sensory modality
 - **Disorganized speech:** failure to string together words into a coherent speech stream
 - **Negative Symptoms**
 - **Flat affect:** failure to exhibit typical emotional reactions to positive or negative events
 - Exhibited in a variety of ways: lack of facial expression, flat tone of voice, or a lack of body language
 - **Avolition:** lack of motivation or ability to do tasks
 - **Alogia:** failure to engage socially like in a conversation
- In this context, a symptom is positive if it adds something to the person's behaviour or sensory repertoire
- A symptom is negative if it subtracts from the person's repertoire

Diagnostic Spotlight: Schizophrenia

- **Incidence**
 - Rare disorder, occurring in less than 1% of the population
 - More common in urban than in rural population
 - Affects ethnic minorities more than majority groups
- **Age of onset**

- early adulthood (young people maturing into adulthood)
- **Gender**
 - Slightly more common in males
- **Suddenness of onset and prognosis**
 - Can develop suddenly or gradually
 - Prognosis is worse for the slow developing type

Bipolar and Related Disorders

- Bipolar disorder was formerly known as manic depression
 - Disorder in which the person alternates between the hopelessness and lethargy of depression to the over-excited state of mania with the manic episode being the defining characteristic of bipolar disorder
 - Episodes of major depression end but with bipolar disorder instead of returning to the normal balance of everyday life, some people seem to be on a sort of pendulum that swings too far in the other direction into an episode of mania
 - **Mania is a hyperactive optimistic state**
 - During the state of mania, the person might engage in unsafe sex, spend impulsively, might have a speech stream that's loud and hard to understand
- **Prevalence among artists**
 - Many composers, writers, and artists have had extraordinary periods of creativity during episodes of mild mania
 - For example, Handel wrote his masterpiece "Messiah" in three weeks

Depressive Disorders

- At some point, we might have felt depressed about a bad mark, breakup or just a bad day
- These common depressed moods are different from the clinical depression that's discussed in the DSM-5 which are long-lasting, and they affect friends and family of an individual
- For a clinically significant depression, also known as major depression or clinical depression
 - Thoughts of suicide may be present including making plans for suicide and sometimes carrying them out
 - Important to take suicidal behaviours or thoughts seriously
 - For example, contacting a helpline
- **Prevalence**
 - Depression is a common disorder
 - Affects about 1 in 14 people at any given time
 - 1 in 5 people during at some point during their life
 - More common among women than men
- **Diagnosis**

- A major depressive disorder can be diagnosed when at least five signs of depression last for more than 2 weeks and are not caused by drugs or a medical condition
 - **Signs** include:
 - a sad mood
 - loss of interest in things you used to enjoy
 - unintended changes in weight, appetite, or sleep patterns
 - physical symptoms like headaches, digestive problems, agitation, feelings of worthlessness, difficulty concentrating and recurring thoughts of suicide
- Episodes of major depression usually end with or without therapy
 - Although the duration may vary

Anxiety Disorders

- Anxiety disorders are the most commonly reported psychological disorder in the U.S
- Generally, anxiety disorders are characterized by excessive fear and anxiety where fear is defined as a response to current threats
 - Fear stimulates the fight-or-flight response with an increased heart rate, increased breathing rate, and sweating
 - In contrast, anxiety is worry about future or potential threats
 - Anxiety does not provoke the fight-or-flight response, but it relates to wariness, muscle tension and cautious behaviour patterns
- An anxiety disorder might be diagnosed when the person's usual pattern of being concerned about, for example, meeting deadlines and things like this extends in time and space so that it interferes with their ability to function
- Few different types of anxiety disorders, some of them include:
 - **Phobias**: an intense irrational fear that leads to a feeling of panic
 - **Agoraphobia**: fear of open spaces
 - **Acrophobia** is a fear of heights
 - **Claustrophobia**: fear of confined spaces
- These are intense irrational fears which may severely interfere with our lives
- Generalized anxiety disorder (GAD) is an anxiety disorder in which a person is continually tense, nervous, and in a state of autonomic nervous system arousal
 - **Symptoms**:
 - Trouble concentrating
 - Trouble sleeping
 - Continual worry
 - Agitation
 - The person is generally anxious without knowing the source that's causing their anxiety
 - GAD can be disabling

- Panic disorder is an anxiety disorder marked by unpredictable minutes long in episodes of intense dread during which the person experiences terror and accompanying chest pain, choking, and other frightening sensations
 - Symptoms:
 - Sudden onset of a panic attack lasting several minutes

Obsessive-Compulsive and Related Disorders

- Obsessions are thoughts, fears, urges, or images that take place inside our heads
 - In a disorder, they are recurrent, unwanted, and intrusive
 - Don't want them since they interfere with other thoughts
- In contrast, compulsions are behaviours that we feel driven or obliged to perform and these compulsions are driven by obsessions
 - Include cleaning items, hands, checking that items are positioned properly, locked or turned off
- Obsessive-compulsive disorder is most often seen amongst teens and young adults
 - Affects 2-3% of the population
- For most people, the symptoms decrease with age and about 20% of people recover completely

Trauma- and Stressor-Related Disorder

- Trauma refers to an emotional response to a shocking, terrifying, dangerous, or life-threatening event
 - Such as being produced by being raised in a violent household or suddenly losing a loved one
- In contrast, stress is the response to the various demands that life imposes on us such as pressure of deadlines for assignments filling out tax forms
- Response to stress and trauma can be differ from response to anxiety
 - May involve social withdrawal, dissociation, fear, or anger
 - Responses become a disorder when the person has trouble readjusting after the distress of the traumatic event
- **Post-traumatic stress disorder (PTSD)** is a disorder characterized by recurring haunting memories, nightmares, social withdrawal, jumpy anxiety, and insomnia
 - Can occur because of an individual experiences or witnessing a traumatic event
 - Does not occur in everyone who experience/witness such an event
 - About 3.5% of the population may be experiencing PTSD at any given time
 - But 9% will experience it at some point in their lives
- **For a diagnosis of PTSD, symptoms in four categories must be met:**
 - Reexperiencing symptoms
 - Such as flashback, nightmares, or involuntary thoughts
 - Avoidance
 - Such as staying away from people and places
 - Cognitive and mood

- Such as avoiding thinking about the situation, having negative thoughts about yourself, the situation feelings of guilt
- Arousal and reactivity
 - Including disturbed sleep and feelings of edginess and anger

Dissociative Disorders

- Dissociation is essentially like the separation of myself from my body or from reality
- In a dissociative disorder, this is much more serious than a momentary dissociation
 - It affects the individual's memory, perception, identity, emotion and behaviour and it causes distress and impairment
- As with schizophrenia, dissociation disorders have positive and negative symptoms (refer to presence or absence)
 - **Positive**
 - Depersonalization which is a feeling of dissociation from your body
 - Derealization which is a feeling that your surroundings aren't real
 - Fragmentation of identity
 - **Negative**
 - Loss of memory
 - Loss of mental function
 - For example, person may not remember significant people in their life, significant life events, or other personal information

Feeding and Eating Disorder

- Feeding disorders are mostly seen in infants and children
 - Involve food preferences; selective and picky eating
 - Some of these get to a diagnosable stage as in the case of avoidant restrictive food intake disorder
- Eating disorders are mostly seen in adults and adolescents
 - Motivation for these is an emotional response to food
 - Person might report an intense fear of weight gain and an inaccurate perception of their body
- Two well-known eating disorders are:
 - **Anorexia nervosa:**
 - Most common amongst adolescents and about 90% of cases are seen in females
 - Begins by dieting to lose weight but it progresses until the achieved weight is well below norms by about 15% or more
 - Despite achieving a body weight below normal, people with anorexia may perceive themselves as overweight
 - Distorted body image associated with this disorder
 - **Bulimia nervosa:**
 - Characterized by periods of bingeing and purging

- Someone with bulimia will gorge on food as a break from a diet but followed by purging
 - By vomiting, using laxatives to speed the food through the body, excessive exercise, or fasting

Personality Disorders

“An enduring pattern of characteristics, beliefs, and behaviours that are drastically different from the expectations of the individual’s society and lead to distress and impairment”.

- **Someone with a personality disorder likely at least one of the following:**
 - Difficulty in social relations and societal expectations
 - Reluctance to take responsibility for that difficulty
 - Trouble with daily stressors
 - Frustration that other people that do not understand this issue
 - Distress, anxiety, or depression
 - Acting out when others confront them about these issues

Personality Disorders in Three Clusters

- **Cluster A (identified by odd and eccentric behaviours such as social awkwardness, social withdrawal, and distorted thinking)**
 - Paranoid personality disorder
 - Schizoid personality disorder
 - Schizotypal personality disorder
- **Cluster B (dramatic, irrational and emotional behaviour)**
 - Antisocial personality disorder
 - Borderline personality disorder
 - Histrionic personality disorder
 - Narcissistic personality disorder
- **Cluster C (problems with impulse control, moral reasoning, and regulation of emotions); show shy, nervous or overly cautious behaviour**
 - Avoidant personality disorder
 - Dependent personality disorder
 - Obsessive-compulsive personality disorder

Borderline Personality Disorder

- Borderline personality disorder is a serious disorder in which the individual exhibits instability in interpersonal relationships, self-image, and emotion
- Key characteristic is black-and-white thinking
 - In which the individual is lacking nuances or shades of gray
 - In other words, people and situations are either good or bad with no middle ground
 - Once their emotions have been aroused, people with borderline personality disorder have trouble calming down, lacking middle ground and may resort to
 - Self-injury like cutting

- Use of intoxicants
- Out of control spending
- Suicidal behaviour
- Or unsafe sexual encounters
- In general, they act impulsively in an all or nothing manner without consideration of the consequences of their actions

Antisocial Personality Disorder

- Antisocial personality disorder is the most troubling and heavily researched personality disorder
 - People labeled with this disorder used to be labeled as sociopaths or psychopaths
- Most common among men and their lack of conscience is evident in the early teens through;
 - Lying
 - Stealing
 - Fighting
 - Inappropriate sexual behaviour
- Typically have lower emotional intelligence
- About half become anti-social adults who cannot hold a job, and have poor parenting and marital skills, and show criminal behaviour
 - These people may become con artists or worse
- Absent from criminal behaviours and actions, they may become CEOs or politicians
- People with this disorder show little autonomic arousal in the face of aversive events
 - And have lower levels of stress hormones

Module 15

The Reality of Therapy

- Depictions and descriptions of psychotherapy are often not very true to how therapy happens
 - Therapy is a long process that takes work and commitment to the process
- Therapists are well-trained, licensed and bound by strict ethical and professional guidelines

Therapy

- When discussing treatment of mental health, we often use the word therapy which is appropriate
 - Therapy is provided in many contexts beyond psychology to help people recover or heal
- In psychology, we typically divide therapy for psychological disorders two categories:
 - **Psychotherapy**

- Trained therapists use psychological techniques to assist someone seeking to overcome difficulties or achieve personal growth
 - Might involve talk therapy but not limited to these approaches
- **Pharmacotherapy**
 - Trained therapist/medical doctor offers medications and other biological treatments to support the individual
 - More broadly, they might provide other biomedical procedures such as deep brain stimulation (DBS)

Different Types of Practitioners

- Many kinds of mental health practitioners that it can be confusing to understand who does what sort of treatment
- Many health practitioners work in all sorts of locations such as in clinics and hospitals but also as members of broader health teams in the community and in schools
- Further, many kinds of practitioners
 - **Psychiatrists are doctors**
 - They've gone to medical school and specialized in psychiatry
 - Use some sort of psychopharmacology often paired with psychotherapy
 - **Psychiatric nurses** are nurses with special training in psychiatric care
 - **Psychologists** have a master's or PhD and there are different types
 - **Counseling psychologists**
 - Tend to help people who are struggling to cope with ongoing life issues
 - **Clinical psychologists**
 - Tend to help people with mental health problems
 - **School psychologists**
 - Tend to help with a variety of stress, social, and mental health issues within a school setting
 - **Social workers** work with people who are struggling with mental health and other issues in a broader context of society

Evidence-Based

- Regardless of practitioner or the setting in which they work, modern mental health professionals provide therapy that's evidence-based
 - That it's been tested and demonstrated to work
- Evaluate the **efficacy** of a treatment by testing it in a lab setting
- Or the **effectiveness** of a treatment by testing it in the real world
- Both are important
 - Evaluation might often start with tests of efficacy in the lab
 - **But if a treatment has high efficacy and poor effectiveness**, it's not going to be of much use to people who are struggling
- Ultimately, **good therapy should involve integration of the best available research with clinicians' expertise and patients' characteristics, preferences, and circumstances**

Psychopharmacotherapy Approaches

- These approaches follow the medical model and focus on treating the brain
- Drugs are used to treat the mind (the brain) and thereby modify behaviour
- Drugs are most used biomedical approach
- There are myriad types of psychoactive medications that are used
 - Focus on the most common classes and types of these drugs

Antipsychotic Drugs

- Antipsychotic drugs used to treat psychosis
 - These drugs often used to treat symptoms of schizophrenia
 - Also shown to be effective in treatment of other disorders like Alzheimer's
 - Reduce delusions, disorganized thinking, confusion, and hallucinations
 - These psychoactive drugs work by mimicking or interfering with the function of neurotransmitters
 - **Typical antipsychotics:** block activity of dopamine
 - Reducing activity of the dopamine system in the brain
 - **Atypical antipsychotics:** act on dopamine and serotonin pathways
 - Side effects
 - **Short-term use:** dry mouth, blurred vision, drowsy and dizzy
 - **Long-term use:** sluggishness, tremors, twitches
 - Interfere with purposeful movement such as a disorder called Tardif dyskinesia

Antidepressant Drugs

- Antidepressant drugs used to treat depression and improve mood
- Several different kinds of antidepressant drugs
 - **Selective Serotonin Reuptake Inhibitors (SSRI)**
 - Most prescribed class of antidepressants
 - Work by slowing reuptake of serotonin in the synapse allowing the neurotransmitter to have a longer lasting effect
 - Prozac is an example of an SSRI
 - **Monoamine Oxidase Inhibitors (MOI)**
 - Prevent an action of an enzyme that's involved in breaking down the neurotransmitter in the synapse
 - This delay allows serotonin, norepinephrine, and dopamine to persist longer in the synapse, thereby improving mood
 - **Tricyclic Antidepressants**
 - Used to treat depression although with a few side effects
 - This class of drug is not the standard first choice treatment for practitioners
 - Tricyclics also act to block reuptake of serotonin and norepinephrine
- Effectiveness

- No clear answer for effectiveness for antidepressant drugs
 - Certain people seem to recover from depression **spontaneously with or without treatment**, just with the passage of time
 - Further studies comparing recovery in people taking a true **antidepressant drug versus a placebo (sugar pill)**
 - Show that depression is susceptible to a placebo effect
 - Just taking the pill can decrease the symptoms of depression
- Research on antidepressants is critical since depression is such a common and incapacitating disorder for many people

Anxiolytic Drugs

- Anxiolytics is a class of drugs that are used to treat people who suffer from anxiety disorders
 - Like antidepressants, the drugs work on neurotransmitters in the brain
 - Decrease levels of activity in the central nervous system, making them sedatives
 - Most prescribed class of anxiolytics is **benzodiazepines**
 - These drugs work to **enhance the effect that GABA** which is an inhibitory neurotransmitter that calms the brain
 - Diazepam (also known as valium) and lorazepam (also known as Ativan) are both examples of benzodiazepines
 - Benzodiazepines are popular because **they provide virtually immediate relief while SSRI's take four to six weeks to accumulate to a full effect in the brain**
 - **Benzodiazepines** start to exert an effect within about 20 minutes
 - Makes these drugs more addictive
- SSRIs are also successfully used in treating anxiety and panic disorders
 - Also been some success using beta blockers which are typically used to treat people with high blood pressure

Mood-Stabilizing Drugs

- Mood stabilizing medications are used in the treatment of bipolar disorder
 - See massive shifts of mood from depression to mania
- Most used mood stabilizing drug is **lithium**
 - Don't know why and how it works even though it's been used for many decades
 - Fairly risky drug and it requires blood tests to ensure that it's the right level in the patient
- Researchers are motivated to discover other drugs that will work to manage symptoms in patients with bipolar disorder
 - For example, **Depakote** is an anticonvulsant medication that works to minimize manic episodes

Not Only Drugs

- Ultimately, any treatment program for mental health should not rely only on drugs

- Although drugs can be an effective part of the solution, they don't necessarily lead to long-term recovery that is a cure
- Ideally, any pharmacological therapy should be paired with psychotherapy approaches to give the maximal and longest lasting benefit

Electroconvulsive Therapy (ECT)

- Many of these approaches involve active stimulation of the brain
- An example of such a treatment that has been used for almost 100 years is **electroconvulsive therapy**
- ECT sends electrical signals over the brain to induce seizures
- This approach is often used when other patients have tried other treatments without success as its quite invasive
- **History of ECT is quite upsetting**
 - Center for Addiction and Mental Health in Toronto calls it one of the most controversial and misunderstood treatments for mental illness
- Modern applications have done it in much more controlled and safe way
- **Manipulates brain by shocking it**
 - Modern: general anesthetic, muscle relaxation
 - Causes less memory disruption than earlier versions
- Among most positive treatments for major depression
 - **Used to treat mental illnesses** including depression, schizophrenia, and bipolar disorder
- **Note:** scientists don't know how or why ECT works although they have hypotheses that it might affect levels of certain neurotransmitters
- It is a highly effective treatment for severe cases of mental illnesses that don't respond to medication alone

Repetitive Transcranial Magnetic Stimulation (rTMS)

- Another method of brain stimulation that is used to treat mental illness is **Transcranial Magnetic Stimulation (TMS)**
- In this method, sends magnetic energy to brain surface through coiled wire held close to brain
 - This interferes with normal neural activity (increases or decreases neural activity)

Deep Brain Stimulation (DBS)

- Deep brain stimulation (DBS) may be used to treat mental illness
- DBS involves surgery to implant a neurostimulator in the brain
 - An electrical device that can be turned on or off to deliver stimulation to a very specific area in the brain
 - The area in the brain stimulated will depend on the illness the patient suffers from
- DBS is used to treat mental illness like depression and eating disorders as well as other disorders such as Parkinson's disease

- The neurostimulator is attached to a power device which is embedded under the skin in the chest area
 - Power device can be controlled by a remote so that settings can be changed according to the patients' needs
- Very invasive approach which requires neurosurgery while the patient is awake as the neurostimulator is placed in the brain
 - So that doctors can assess the effect of the stimulator and avoid damage to the brain

Group and Family Therapies

- Psychotherapy can occur one-on-one (individual therapy) or in groups or with partners
- **Group Therapy**
 - Clients benefit from group interaction
 - **Ex:** in a group of people who suffer from anxiety disorders, clients benefit from hearing that other people suffer the same symptoms or from brainstorming ways to manage anxiety in day-to-day life
 - Often used when client problems involve interactions with others
 - Idea of peer support is the core idea in group therapies that are based on mutual help such as alcoholics anonymous
- **Family Therapy**
 - a couple or a whole family might attend therapy sessions together
 - Family or couple are approached as a unit or system that interacts and affects one another
 - **Ex:** an individuals' unwanted behaviours might be influenced by or directed at other family members
 - The therapist facilitates communication within the family or among the couple and facilitates the use of conflicts resolution strategies

Approach	Psychoanalysis (insight therapy)	Humanistic
Goals	<ul style="list-style-type: none"> • Bring unconscious experiences to consciousness to gain self-insight 	In order to promote personal growth: <ul style="list-style-type: none"> • Reduce inner conflicts • Increase self-awareness and self-acceptance
Techniques	<ul style="list-style-type: none"> • Hypnosis • Free association • Dream analysis 	<ul style="list-style-type: none"> • Client-centred • Focus on present instead of past

- **Humanistic therapists** foster growth by exhibiting genuineness, acceptance, and empathy.
 - Regardless of if they agree with the clients' view or behaviours

- This is called **unconditional positive regard**
- Therapist is there more as a peer guide rather than an expert about the issues that the person is struggling with

Behaviour Therapies

- Behaviour therapy is based in changing behaviour (not in gaining personal insight)
- Behaviour therapy approaches make use of the basic principles of learning and conditioner to foster behaviour change

Behaviour Therapies: Pavlovian

- Some behaviour therapies might be based on classical conditioning
 - With classical conditioning, we have a natural or unconditioned response to some stimulus
- Conditioning consists of forming an association between that stimulus and another
 - Ex: if we have someone who is addicted to alcohol, we can use classical conditioning to decrease their desire for alcohol
 - In this case, we might have the person repeatedly drink alcohol that has been mixed with a drug that induces nausea
 - Naturally, the drug (unconditioned stimulus) causes a feeling of nausea (unconditioned response)
 - If we pair the alcohol that does not cause nausea with the drug repeatedly, the person will come to associate the alcohol with the feeling of nausea
 - By pairing the aversive experience of nausea with the experience of alcohol, the person becomes less desirous of alcohol
 - This would be called **aversive classical conditioning**
 - We are conditioning the individual to associate an aversive experience with the behaviour that we wish to decrease
- Can also use classical conditioning to form new positive associations
 - If we have a patient who fears elevators, we could try having them do a relaxation exercise every time that they enter an elevator
 - If the relaxation exercise naturally causes relaxed physiological responses such as a slower heart rate
 - May learn to associate elevators with that relaxed feeling

Behaviour Therapies: Operant

- Other behaviour therapies use the principles of operant conditioning to change behaviour
- **Operant conditioning** involves introducing consequences to a behaviour
 - “if I do this, I get that”
- A toddler who gets a smartie (chocolate) every time he pees on the toilet is being toilet trained using operant conditioning
- Sometimes the training may make use of a token economy

- Client is given a token for doing some behaviour and can trade in a number of tokens for a tangible reward
 - **Ex:** a child gets a marble every time they clear their dishes after a meal
 - Once the marble jar is full, they can trade it in for a new toy from the toy store

Behaviour Therapies: Systematic Desensitization

- Systemic desensitization is a method used to treat anxiety disorders
- This is an approach which starts by teaching some relaxation techniques such as breathing exercises in identifying a hierarchy of fears to classify how fearful different situations might be to the person
- This is done using a **systematic units of distress (SUDS) scale**
- SUD scale is used to give a starting point for treatment
 - Therapist and client will start by working with a low SUD scoring item
 - **Ex:** someone who has a fear of elevators might say that thinking of being in an elevator is about 10/100 on a fierce scale, being in an elevator is about 40/100 and being stuck in a dark elevator is about 100/100 on their fear scale
 - Treatment in this case would start by having the person think of being in an elevator while using relaxation techniques and then gradually working up to the more fearful stimuli
 - Don't start therapy by putting the person in the locked dark elevator, this would be flooding which does not work very well
 - Instead, we start small and work up to the final goal
- One thing that's becoming frequently used in systematic desensitization approaches is virtual reality
- In this case, we can have the person participate in a realistic seeming scenario, but be completely safe
 - **Ex:** if we have someone who's afraid of heights, they might say that looking at a picture from a high height would give them a SUDS of 20/100, while standing on the edge of the building would have SUDS of 100/100
 - **How do we get them from looking at the picture to standing on the edge of the building?**
 - Use VR to emulate the situation

Cognitive Therapies

- Another method of treatment is cognitive therapy
 - Emphasis is on changing inaccurate or harmful ways of thinking
- In doing this, we can teach an adaptive way of thinking and change an emotional reaction
 - **Ex:** we may notice that someone with social anxiety goes to a social event thinks that no one is interested in what they are saying and feels anxious or sad about the social event

- To change this emotional consequence, we must change how the person thinks of themselves in that situation
 - By doing this, we teach them to have a more positive consequence or emotional response to the situation
- We commonly see that patients with depression have negative cognitive distortions, inaccurate ways of perceiving the world around them
 - **They demonstrate all-or-nothing thinking like “I didn’t stay at the party until the end so I’m a total failure”**
 - **They discount the positive like “the person was only talking to me because they were being nice”**
 - **They catastrophize like “I’m never going to get comfortable at parties, I’ll always be a failure”**
- Cognitive therapists use techniques to identify these distortions in thought and teach the person to interpret and predict their experiences more accurately

Does it Work?

- There are many different types of psychotherapy, but do they work
 - Hard to measure
 - Can’t depend on positive reports from patients because people know if they’re in therapy
 - We can’t give them a placebo as we might with a drug trial since they will know if they’re not receiving therapy
- Meta-analyses which are summaries of many studies on a given approach
 - Indicate that most people improve without therapy
 - But improve faster and more permanently with psychotherapy

Which Psychotherapies Work Best?

- We might also want to know which psychotherapy works the best
- **It depends on the issues:**
 - **Behaviour therapies:** particularly effective for bed-wetting, phobias, compulsions, marital problems, sexual dysfunctions
 - **Psychodynamic therapy:** effective for depression and anxiety
 - **Cognitive therapies:** effective for anxiety, depression, and PTSD
- Ultimately, any psychotherapeutic approach should use evidence-based practice
 - Should involve the integration of the best available research with the clinician’s expertise and considering the patients’ characteristics, preferences, and circumstances

Module 16

Stress

- Stress is the process by which we perceive and respond to certain events that we appraise as threatening or challenging
 - Events may be external
 - For example, a bear on a trail that we're hiking on
 - Events may be internal
 - For example, the feeling of nausea
 - Events may be psychological
 - For example, a feeling of unease while walking alone on a dark street

Stressors and Stress Response

- One important distinction to make between stressors and stress responses
 - **Stressors:** external stimuli that threaten or disturb balance within the organism
 - Might be immediate, short-term, or long-term
 - Immediate:
 - Like an attack from an animal
 - Short-term:
 - Like a big test for a course
 - Long-term
 - Like living in a refugee camp
 - Or like working as a frontline worker during COVID
 - **Stress Responses:** the internal responses to stressors
 - They exist to bring organisms back to homeostasis to a balanced state
 - May comprise psychological components (like thoughts), physiological changes, or emotional components

Stressors

- Consider different types of stressors
 - **Physiochemical stressors** are part of the external natural environment like heat or cold
 - **Social stressors** are part of the social environment like the work organization that you attend
 - **Biological stressors** are part of the internal environment like having a headache or feeling nauseated
 - **Mental stressors** come from psychological conditions such as a situation being pleasant or unpleasant
 - **Stressors can be acute (short-term)** like daily hassles that we face
 - Can be **chronic (long-term)** like living in poverty or facing major life changes
 - Or can be **traumatic (catastrophe)** like experiencing a catastrophe
- All these types of stressors can be harmful to mental and physical health but there's a particular chance of harm when stressors are clustered together
 - Thus, an individual whose house has been destroyed by a tornado, who is now living in a temporary shelter, and who must travel a long distance to document losses for insurance purposes will be more likely to experience negative effects

of stress than someone whose house has been destroyed but who can live with his family and access insurance claims from their current living situation

Good Stress and Bad Stress

- Although too much stress can be harmful, but not all stress is bad
- **Hans Selye**, one of the most famous people who have done stress research coined the terms **eustress and distress** to explain our responses to good or bad stress
 - Get a new job, have new responsibilities: **Eustress**
 - Get robbed while travelling: **Distress**
 - Things that are good that we want in our lives can be stressful which is okay
- Another model that emphasizes that stress can be beneficial is the **Yerkes-Dodson Law**
 - This law proposes that some mid-level of stress is necessary to optimize performance
 - For example, imagine that you're in a class at university
 - If your final exam is worth 2%, you are likely not to worry about it, not study enough and probably ending up not doing well
 - Your arousal or stress is low, and you don't perform very well
 - However, if your final exam is worth 100% of your grade, you're likely to be really stressed; maybe study instead of sleeping and be anxious during the test itself
 - Your arousal or stress is high, and it prevents your best performance
 - If your final exam is worth 35% of your final grade, you're likely to be stressed enough that you're motivated to study, but not stressed to the point where you lose sleep over it
 - Show best performance
 - While there is mixed evidence for this law, it's a useful one to consider
 - More recently, the benefits of stress have been described in the **maximal adaptability model** which essentially says that humans are good at managing stress
 - We can perform well even under pressure

Key Ideas

- We are most comfortable when we are in a state of homeostasis
 - When our body is in balance
 - Not too cold nor too hot
 - Not too hungry nor too full
 - Not too tired but we're not agitated or manic
- The stress response is a combination of responses that affect our homeostasis
 - When we experience a stressor, our body alerts us to the presence of the stressor and then responds to that alert or responds using that alert

- For example, if we're walking through the jungle and suddenly, we see a lion coming down the path, our hearts start to pound (the alert) which allows our muscles to respond quickly to get us out of there
 - In coming out of the state of homeostasis with a moderate heart rate, by coming out of that we survive the encounter with the lion
- Brings up the key idea that of stress as an adaptive response
 - The adaptiveness of a behaviour refers to the evolutionary pressures that influenced its development
 - Adaptive traits are selected for, and they increase in a population because they are beneficial (helps in survival of the fittest concept)
 - For example, imagine Joe and Sam are walking together down the trail and they see the lion
 - Joe's heart starts to pound which allows him to run away quickly and climb a tree
 - However, Sam's heart does not start to pound which means he can't move as quickly, and the lion eats him
 - Joe survives to have babies and passes down the adaptive response (heart pounds when see lion response) that's encoded in his genes
 - Sam's response does not get passed down since he is dead
 - This is a simplification of pressures of selection in evolution, but it gives the basic idea
- These responses have developed because they help us survive even if they sometimes make us uncomfortable
 - Heart rate is just one example of a physiological response to a stressor

Neurobiological Responses

- What happens in our brain when experiencing a stressor?
 - There are very complex responses but only focus on a few of the key players
- The first area to respond to a stressor is the amygdala
 - Neuroscientists can observe a neural response in the amygdala before people report of being aware of stressor
 - Fast response
- Another key region in the stress response is the hippocampus
 - This area is involved in the formation of new memories
- As well as the prefrontal cortex is critical in the stress response as it allows us to plan a response based on our evaluation of the stressor
 - It allows moderation or amplification of the amygdala's response by considering the bigger picture
 - Whereas the amygdala's initial response occurs without any interpretation of the whole scene

Hormonal Responses

- In addition to our brain responding to stressors, our endocrine system also mounts a response.
 - An important part of our peripheral nervous system is the autonomic nervous system which mounts a fight-or-flight response
 - This system acts in concert with the hypothalamic pituitary adrenal axis (HPA axis) to produce hormones that allows us to respond effectively to a stressor
 - Each of these systems controls different hormones
 - **Autonomic nervous consists of:**
 - **Sympathetic nervous system (Run)**
 - When coming around the corner in the jungle and see the lion
 - Sympathetic nervous system kicks into high gear
 - This activation driven from the hypothalamus
 - Leads to the release of catecholamines from the adrenal glands
 - Catecholamines such as **epinephrine and norepinephrine**
 - These two hormones help your body prepare for the fight-or-flight response
 - **Parasympathetic nervous system (Whew!)**
 - if you figured out that the lion was sleeping, and you were safe
 - Parasympathetic nervous system kicks in via activation from hypothalamus and decreases release of these hormones
 - **HPA axis**
 - Seeing the lion also activates the HPA axis
 - Amygdala sends a signal to the hypothalamus
 - Causing a release of corticotropin releasing hormone which triggers the release of adrenocorticotrophic hormone by the pituitary gland
 - Ultimately, causing the adrenal glands to release cortisol
 - Cortisol is thought of as the stress hormone, it increases rapidly with stress, and it can be easily measured in urine, saliva, hair, and blood
 - Cortisol follows a typical daily pattern of change in healthy people
 - Changes in people who experience chronic stress
 - It is these hormones that cause the physical effects of stress that we experience; increased heart rate, dilated pupils, diminished digestion, dry mouth
- One thing to keep mind is that both responses are helpful if they occur briefly as in the case of acute stressors
- When these responses are continually occurring in our bodies, they can be harmful in the long run

- It is important that both systems: autonomic nervous system and HPA axis have a feedback loop that allows the cascade of hormones to be turned off when the stressor is gone

Immune System Responses

- Immune system allows us to deal with damage to the body this occurs via the **inflammatory response**
- When **inflammatory response** is activated, it releases proteins that help us heal injuries and manage infections
 - This is relevant given the evolutionary development of the stress response which often would involve fleeing from predators and being injured in the process

Appraising Stressors

- When researchers are studying stress and stressors, it can be hard to predict what will be stressful for a given individual
 - For one person, speaking in front of a crowd might illicit a strong stress response but may be able to hold a large snake with no stress at all
 - Might see opposite experience in someone else
- Thus, when we're studying stress, it is important to assess how a given individual perceives stress
- Your own perception of the stressor is what determines how you respond to it
- When a person is making their judgement about stress, there are two components
 - **Primary Appraisals**
 - Involve thinking about how relevant and challenging a given stressor will be for you
 - **Secondary Appraisals**
 - Involve your perception of how well you can manage the stressor
- For example, imagine someone's planning to run a marathon.
 - This is a challenging task, and most people will feel some stress about it
 - In appraising how stressful the marathon might be, the person might consider how important to them to finish the race, or whether they want to place in the top 20.
 - **These (above) are primary appraisals**
 - The person might also consider whether they are prepared to deal with the stress of the marathon
 - They might reflect on the consistent training that they've done over the past year and other marathons they've completed in the past
 - This might decrease their perceived stress about the marathon
 - **This is an example (above) of a secondary appraisal**
- The combination of a person's primary and secondary appraisal will determine their perceived stress
- We would expect perceived stress to be high for someone who feels the task is important and feels unprepared

- It might be quite low for someone who does not really care about completing the task and is well prepared

Challenge vs Threat

- The combination of primary and secondary appraisals can further help us identify whether a stressor is seen as a challenge (manageable), or a threat (unmanageable)
- To some extent, we can also look at the characteristic of the stressor to predict whether it will be a threat or a challenge
- Stressors that involve danger, uncertainty, lack of control, novelty, or high levels of effort are more demanding and so they're more likely to be perceived as threats which is the perception when the demand of the stressor exceeds the person's resources

Studying Stressors

- Researchers must consider whether a particular is a threat or a challenge when setting up studies
 - For example, imagine a researcher wanted to observe how high levels of stress influence people's ability to do a speeded math test
 - So, the participants are brought into the lab and they're given some topic (let's say history of Nepal)
 - Half of them in group A are told that they will have 10 minutes to prepare a speech on the topic and then they'll have to present it to a group of 20 people
 - The other half, group B, were told that they have 10 minutes to read the material and then they'll have to complete a written test about it
 - All of the participants are then given a speeded math test
 - In this design, the assumption is that group A will be more stressed than group B because most people will be more stressed by the idea of public speaking than by completing an individual written test
 - But if we happen upon someone who's on the debate team, this may not be true
 - He may not feel any stress about public speaking, in this way, **the same stressor can have different effects on different people**
 - Facts like this paired with the fact that no individual is ever dealing with only one stressor, much less only the one we introduce in our study, complicate the study of stress

Diathesis-Stress Model

- Generally, we see that people who face chronic stressors have worse health than people who don't
 - But there are a lot of individual differences
 - Not everyone facing the same stressor will show the same health impacts
- A theory that's been proposed to explain these individual differences is the **Diathesis Stress Model**
 - Diathesis means the predisposition or vulnerability that a person has to a particular health outcome or disorder

- Essentially, the diathesis stress model proposes that genetic predispositions affect the impact of stressors on different people
 - That is for 2 people facing the same stressor
 - One reason they may respond differently to it is because of their genetic makeup
 - One's genes might put them at an increased risk of health issue due to stress while the other's genes might protect them from that risk
- A recent perspective of the **Diathesis Stress Model** proposes that high risk might be high plasticity, which is the possibility for change
 - So, if your genes put you in an increased risk of harm from stress
 - Also makes you more amenable to benefits from intervention or therapy
- Overall, this model explains that your genes influence the effect that stressors have on you
- The effect of genes on the effect of stress can make it difficult to study the effects of stress on health
 - There are some other limitations in this field of work as well

Limiting Factors in Stress Research

1) Risk ≠ Definite Outcome

- a. While we know that genes can put a person at increased or decreased risk of certain health outcomes due to stress
- b. Being at higher risk does not mean the person will absolutely develop that health outcome
 - i. For example, if we know that someone has a genotype that increases the risk of stress causing migraines, does not necessarily mean that the person will develop migraines under stress
 - ii. They are more likely to do so compared to someone who does not have this genetic predisposition

2) We can counteract risk

- a. Risk is not an insurmountable problem
 - i. Genetic factors are one factors that impact the effects of stress on our bodies
 - ii. We can do things to prevent against a genetic risk like a lifestyle change, and social supports

3) Rarity

- a. While researchers have found relationships between stress and some health outcomes
- b. Many of the health issues that are studied are quite rare in population
- c. Imagine that in the general population, the chance of having an aneurysm is 0.02%
- d. If you have a genetic predisposition that makes stress more likely to cause an aneurysm, it might increase your chance of having an aneurysm, but your chance

of this outcome is still low even if it's doubled; your chance of having aneurysm is 0.04%

4) Correlational, observational studies

- a. We cannot ethically expose people to stress so we can't do experiments that investigate the effects of stress or at least chronic stress on health
- b. Due to this, all studies in this field are correlational in nature
- c. Well, we can say that there's a relationship between chronic stress and health outcomes, we cannot say that stress causes health outcomes because correlations don't allow us to infer causation

5) Confounding variables

- a. Since we are not able to conduct experiments on this question, we cannot control possible confounding variables, it's likely that a genetic predisposition affects many outcomes
- b. Some of these is what drives the health outcomes without an experimental manipulation
- c. We cannot exclude the possible impact of confounding variables in our study on stress and health outcomes

Stress and Mental Health

- While it is likely that stress is involved in psychological disorders, these disorders on the whole are still quite poorly understood in terms of why they develop
- **Stressors increase the chance of depression**
 - Stressors involve social rejection such as a breakup, breaking a friendship or losing a job
 - Stressors involving loss and humiliation such as losing a partner, friend, a family member, identity, or a job
- **Stressors also increases risk for anxiety disorders**
 - Stressors related to loss also increase chance of anxiety
 - Danger stressors like experiencing a natural disaster or being a victim of a crime
- Generally, one of the most consistent predictors of mental health is childhood stress and trauma, particularly when its chronic
 - Individuals who experience childhood stressors are at significantly higher risk for a variety of psychiatric disorders:
 - Mood disorders
 - Anxiety disorders
 - Substance disorders
 - Behaviour disorders
 - Family violence and neglect during childhood are particularly high-risk predictors of psychiatric disorders later in life

Stress and Physical Health

- High levels of stress are associated with higher risk of **acute physical illnesses** like the cold and flu
 - No coincidence if you get sick around exam time

- Many people live with **latent viruses** in their system such as the herpes virus which emerges every so often as a cold sore
 - If you have this virus, you may have noticed that you're more likely to get a cold sore when you're stressed
 - Science backs up this observation by demonstrating that latent viruses are more likely to reactivate during periods of stress
- We've heard that stress can increase the chance of heart attacks and there's some research that shows that
- Stressful events like a natural disaster are associated with physiological effects that increase the risk of a **heart attack or another cardiovascular event**
 - For example, they're associated with higher blood pressure
- Chronic stress such as working in a workplace also increases the chance of a cardiovascular event
- Stress is also associated with an increased risk of autoimmune disorders such as multiple sclerosis or lupus
 - People must have an underlying genetic vulnerability to these disorders
- Research shows that if a person has this vulnerability, being under stress can increase the chance that symptoms of the disorder will emerge

Managing Stress

- Physical activity
- Sleep
- Diet
- Social support
- Active relaxation

Physical Activity

- Living an active lifestyle is associated with all kinds of benefits;
 - Better physical health
 - Decreased risk of death
 - Better mental health
- It's also a protective factor against stressors
 - People who exercise regularly show less susceptibility to mental and physical illness even when they experience stressors
- Mechanism underlying this benefit could be that exercise slows biological aging or it could be that exercise makes our biological systems more resilient to stressors
- Not causal conclusions, much of this work is observational or correlational

Sleep

- Many of us wake up without adequate sleep, puts us at a disadvantage for managing stress
 - Adequate is between 6-9 hours of sleep
 - Less than 6 hours or more than 9 hours of sleep is inadequate

- As with physical activity, getting adequate and regular sleep is associated with a wide range of benefits to physical and mental health
- Individual differences in how much sleep people need
 - Also, must remember that work on this topic is correlational
 - It could be that people who already have poor health are likely to sleep more instead of sleeping more causing poor health
- See differences in the need for sleep with age
 - Babies need more sleep than elderly for example
- No number of hours of sleep that correct
 - The best measure of whether you're getting the right amount of sleep is if you feel rested
 - When we're not adequately rested, we don't deal as well with stressors

Diet

- There are also associations between stress and diet
- When people are stressed, they often eat to feel better, particularly comfort foods that are high in sugar or fat
- However, the opposite is also true, often high levels of stress decrease appetite and food intake
- While it is possible that comfort foods decrease the levels of cortisol and thus impact our stress system
 - There is mixed data on this

Social Support

- One of the most important predictors of good health is social support
- This may occur due to a decrease in inflammation that comes with good social support
- In terms of stress, in particular social connections provide:
 - **Emotional support:** having someone listen in a caring way when you need to talk
 - **Instrumental support:** having someone to help with tasks or demands when you're unable to do them yourself
 - **Informational support:** involves learning from others
 - **Appraisal support:** involves having someone to help you decide whether a situation or a challenge is manageable for you
- All these types of supports can help manage stress

Active Relaxation

- Nowadays we hear about self-care
 - Doing things to look after yourself
- Now while you might think of this as a day of watching Netflix or going to the spa
 - These splurge type of behaviours aren't always necessary for benefit
- There's a lot of evidence of the benefits of mindfulness meditation for the management of stress
 - As well as broader benefits to physical and mental health