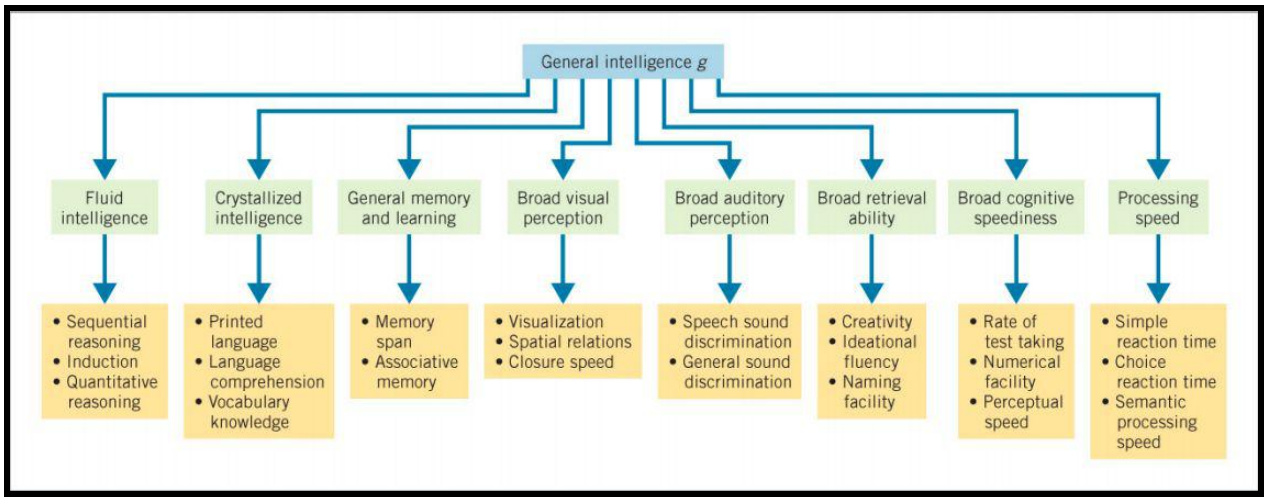
Lecture Notes:

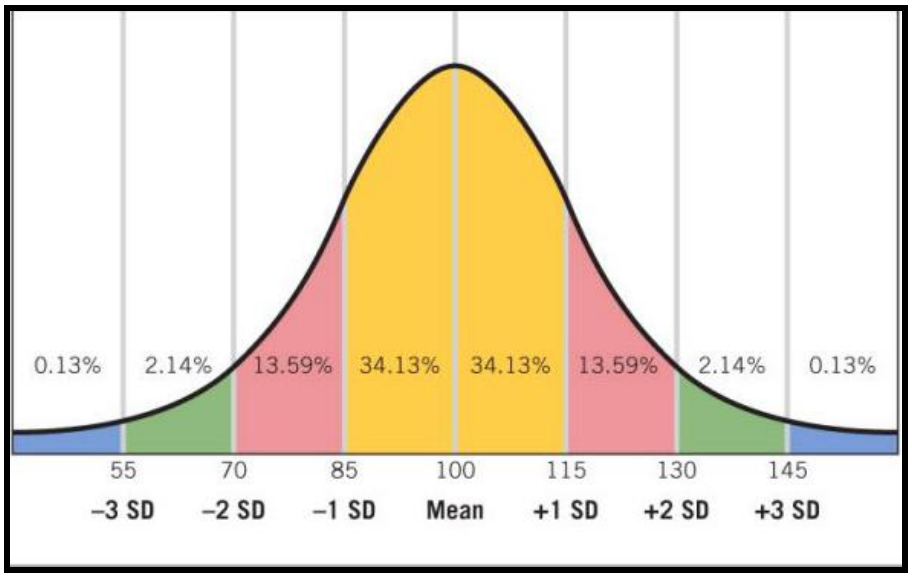
- Intelligence is:
  - The ability to learn or understand, or to deal with new or challenging situations.
  - The ability to apply knowledge to manipulate one's environment.
  - The ability to think abstractly as measured by objective criteria.
- Intelligence predicts academic success, economic success, occupational success and success on standardized tests.
- Half of intelligence comes from genetics and the other half comes from the environment.
- IQ scores are more similar between identical than between fraternal twins.
- IQ scores of adopted children are more similar to their biological parents'.
- Some environmental factors that affect intelligence are stress levels at home, a child's nutrition, and the education of their parents. Furthermore, IQ scores are positively correlated with protective factors (high parental involvement, stimulating physical environment, etc). IQ scores are negatively correlated with risk factors (low SES, low maternal education, etc).
- School improves children's intelligence. IQ scores are higher during the school year than in the summer. Kids that miss the academic year cutoff have lower IQ scores than slightly older kids that have made the cutoff.
- Intelligence has been defined in many different ways throughout human history. Some debunked views are keenness of sight and ethnicity. However, other older, valid scientific views, such as reaction time, speed of association and brain volume are still used.
- Carroll's three-tiered model of intelligence is derived from factor analysis. His 3-tiered model starts with **general intelligence**, abbreviated as **g**, on the top. At the second level, there is basic intelligence. These include **fluid intelligence**, **crystallized intelligence** and general memory and learning. The third level is a set of specific abilities. Carroll's 3-tiered model of intelligence looks like this:



- Linguistic, logical-math and spatial intelligence would correspond to some of the specific abilities in Carroll's three-tiered model, which are commonly tested on modern IQ tests.
- While we can't measure intelligence directly, we can measure its correlates.
- Alfred Binet invented the first IQ test using trial & error. This test is called the **Binet-Simon intelligence test**. To create the test, Binet got people who he knew and got them to do a series of tests involving puzzles, object naming and counting. He saw

which categories of tests successful people did well on and used that as a framework of measuring intelligence.

- Modern IQ tests are consistent with Carroll's three-tiered model. They test performance on a number of areas from the bottom tier, such as printed language, spatial relations, rate of test taking, semantic processing speed.
- Intelligence tests are different for different ages and different locations.
- IQ tests are created to produce a standard score in the age group and location in which they are presented. The mean score on IQ tests is designed to be 100 with a standard deviation of 15. IQ scores follow a normal distribution.



- How likely is it that a child will score a 130 or higher on an IQ test? Answer: About 2.27%
- **Percentile** is the percentage you expect to fall below you.
- What percentile is a child in if she scores a 115? Answer: The 84th percentile
- How does the average IQ score of a 9-year-old compare to the average IQ score of a 6-year-old? Answer: They should be the same.
- How does the average IQ score of a 10-year-old in Canada compare to the average IQ score of a 10- year-old in the United States? Answer: They should be the same.
- IQ tests suffer from problems of validity. Sometimes, IQ tests measure a person's language skills or cultural knowledge rather than intelligence.
- IQ tests' short-term reliability is good. However, their long-term reliability is less consistent. Infant IQ doesn't always reliably predict child/adult IQ. Child and adult IQ are correlated, but the correlation is lower with longer time intervals.
- IQ tests don't capture all forms of intelligence.
- In Gardner's theory of multiple intelligences, people have at least 7 types of intelligence necessary for functioning and survival. These 7 intelligences are not related to each other. Furthermore, they are not based on aptitude tests but are based on self-report measures and behavioural observation.
- There is evidence for Gardner's approach. First, these areas of intelligence have different developmental patterns (emerge at different ages). Second, damage to a specific brain area may impact only one type of intelligence and not others.
- The Flynn effect is that IQ scores have consistently risen around the world since we started measuring/testing IQ.

- The Flynn effect slope is steeper in low SES communities and in developing countries.

Textbook Notes:

- **Module 9.1 Measuring Intelligence:**
- **Intelligence and Perception Galton's Anthropometric Approach:**
- Galton believed that sensory abilities should be an indicator of a person's intelligence.
- **Anthropometrics** refers to methods of measuring physical and mental variation in humans.
- **Intelligence and Thinking The Stanford–Binet Test:**
- In contrast to Galton, Alfred Binet, argued that intelligence should be indicated by more complex thinking processes, such as memory, attention, and comprehension. This definition of **intelligence** is the ability to think, understand, reason, and adapt to or overcome obstacles.
- The **mental age** is the average intellectual ability score for children of a specific age. For example, if a 7-year-old's score was the same as the average score for 7-year-olds, she would have a mental age of 7, whereas if it was the same as the average score for 10-year-olds, she would have a mental age of 10, even though her chronological age would be 7 in both cases.
- The **Stanford-Binet test** is a test intended to measure innate levels of intelligence.
- **Intelligence quotient** or **IQ** is a measure of intelligence computed using a standardized test and calculated by taking a person's mental age, dividing it by his chronological age, and then multiplying by 100. One issue with measuring IQ is that because our intelligence stabilizes as we get older, but our age increases, our IQ decreases when it shouldn't. To get around this issue, the deviation IQ was created.
- The **deviation IQ** is calculated by comparing the person's test score with the average score for people of the same age.
- **The Wechsler Adult Intelligence Scale:**
- The **Wechsler Adult Intelligence Scale (WAIS)**, the most common intelligence test in use today for adolescents and adults, was developed by David Wechsler.
- The WAIS provides a single IQ score for each test taker—the Full Scale IQ—but also breaks intelligence into a General Ability Index (GAI) and a Cognitive Proficiency Index (CPI).
- The GAI is computed from scores on the Verbal Comprehension and Perceptual Reasoning indices. These measures tap into an individual's intellectual abilities, but without placing much emphasis on how fast he can solve problems and make decisions.
- The CPI is based on the Working Memory and Processing Speed subtests. It is included in the Full Scale IQ category because greater working memory capacity and processing speed allow more cognitive resources to be devoted to reasoning and solving problems.
- **Raven's Progressive Matrices:**
- One of the key problems with many intelligence tests, such as the Stanford-Binet test and the WAIS, is that questions often are biased to favour people from the test developer's culture or who primarily speak the test developer's language.
- In the 1930s, John Raven developed **Raven's Progressive Matrices**, an intelligence test that is based on pictures, not words, thus making it relatively unaffected by language or cultural background.
- **IQ Testing and the Eugenics Movement:**
- Forced sterilization was carried out in at least 30 states and two Canadian provinces, lasting for almost half a century. In Alberta, the Sexual Sterilization Act remained in force

until 1972, by which time more than 2800 people had undergone sterilization procedures in that province alone. New immigrants, the poor, Native people, and Black people were sterilized far more often than middle and upper class White people.

- **Problems with the Racial Superiority Interpretation:**
- Research has indicated that the IQ differences may be due to a process known as **stereotype threat**, which occurs when negative stereotypes about a group cause group members to underperform on ability tests.
- **Working the Scientific Literacy Model Beliefs about Intelligence:**
- Research has found that people seem to hold one of two theories about the nature of intelligence. They may hold an **entity theory**, the belief that intelligence is a fixed characteristic and relatively difficult or impossible to change; or they may hold an **incremental theory**, the belief that intelligence can be shaped by experiences, practice, and effort.
- **Module 9.2 Understanding Intelligence:**
- A **savant** is an individual with low mental capacity in most domains but extraordinary abilities in other specific areas such as music, mathematics, or art.
- **Intelligence as a Single, General Ability:**
- When we say someone is intelligent, we usually are implying they have a high level of generalized cognitive ability.
- There are many techniques to calculate correlations among multiple measures of mental abilities. One of these techniques, **factor analysis**, is a statistical technique that examines correlations between variables to find clusters of related variables, or "factors."
- **Spearman's General Intelligence:**
- Charles Spearman developed the general intelligence factor (abbreviated as "**g**"). A person's **general intelligence factor** represents their "mental energy," reflecting his belief that some people's brains are simply more "powerful" than others.
- General intelligence factor correlates quite highly with high school and university grades, job performance among other things.
- However, we should note that in addition to a generalized intelligence, people also possess a number of specific skills. Individual differences on these skills may explain some of the variability on intelligence tests that is not accounted for by g. Spearman chose the name "s" to represent this specific-level, skill-based intelligence. His two-factor theory of intelligence was therefore comprised of g and s, where g represents one's general, overarching intelligence, and s represents one's skill or ability level for a given task.
- In the intervening decades, there were several different theories of multiple intelligences. The first influential theory of multiple intelligences was created by Louis Thurstone, who examined scores of general intelligence tests using factor analysis, and found seven different clusters of what he termed primary mental abilities. Thurstone's seven factors were word fluency, verbal comprehension, numerical abilities, spatial visualization, memory, perceptual speed, and reasoning. He argued that there was no meaningful g, but that intelligence needed to be understood at the level of these primary mental abilities that functioned independently of each other.
- **Working the Scientific Literacy Model Testing for Fluid and Crystallized Intelligence:**
- **Fluid intelligence (Gf)** is a type of intelligence used in learning new information and solving new problems not based on knowledge the person already possesses. Tests of Gf involve problems such as pattern recognition and solving geometric puzzles.

- **Crystallized intelligence (Gc)** is a type of intelligence that draws upon past learning and experience. Tests of Gc involve problems such as tests of vocabulary and general knowledge.
- The distinction between fluid and crystallized intelligence is basically the difference between "figuring things out" and "knowing what to do from past experience."
- **Sternberg's Triarchic Theory of Intelligence:**
- Robert Sternberg developed the **triarchic theory of intelligence**, a theory that divides intelligence into three distinct types: analytical, practical, and creative.
- Analytical intelligence is "book smarts." It's the ability to reason logically through a problem and to find solutions.
- Practical intelligence is "street smarts." It's the ability to find solutions to real-world problems that are encountered in daily life, especially those that involve other people.
- Creative intelligence is the ability to generate new ideas and novel solutions to problems.
- **Gardner's Theory of Multiple Intelligences:**
- Gardner proposed a theory of **multiple intelligences**, a model claiming that there are nine different forms of intelligence, each independent from the others.
- Gardner's Proposed Forms of Intelligence:

Verbal/linguistic intelligence	The ability to read, write, and speak effectively
Logical/mathematical intelligence	The ability to think with numbers and use abstract thought; the ability to use logic or mathematical operations to solve problems
Visuospatial intelligence	The ability to create mental pictures, manipulate them in the imagination, and use them to solve problems
Bodily/kinesthetic intelligence	The ability to control body movements, to balance, and to sense how one's body is situated
Musical/rhythmical intelligence	The ability to produce and comprehend tonal and rhythmic patterns
Interpersonal intelligence	The ability to detect another person's emotional states, motives, and thoughts
Self/intrapersonal intelligence	Self-awareness; the ability to accurately judge one's own abilities, and identify one's own emotions and motives
Naturalist intelligence	The ability to recognize and identify processes in the natural world—plants, animals, and so on

Existential intelligence	The tendency and ability to ask questions about purpose in life and the meaning of human existence

- While on average males and females are equally intelligent, when multiple intelligences are considered, rather than overall IQ, a clear difference between the sexes does emerge. On average, females are better at verbal abilities, some memory tasks, and the ability to read people's basic emotions, whereas males have the advantage on visuospatial abilities, such as mentally rotating objects or aiming at objects.
- **Module 9.3 Biological, Environmental, and Behavioural Influences on Intelligence:**
- **The Genetics of Intelligence Twin and Adoption Studies:**
- Decades of such research have shown that genetic similarity contributes to intelligence test scores.
- The intelligence scores of identical twins correlate with each other at about .85 when they are raised in the same home, which is much higher than the correlation for fraternal twins. Even when identical twins are adopted and raised apart, their intelligence scores are still correlated at approximately .80, a very strong relationship.
- **The Heritability of Intelligence:**
- Overall, the heritability of intelligence is estimated to be between 40% and 80%.
- **Behavioural Genomics:**
- While twin and adoption studies show that some of the individual differences observed in intelligence scores can be attributed to genetic factors, these studies do not tell us which genes account for the differences. To answer that question, researchers use behavioural genomics, a technique that examines how specific genes interact with the environment to influence behaviours, including those related to intelligence.
- Overall, studies scanning the whole human genome show that intelligence levels can be predicted, to some degree, by the collection of genes that individuals inherit.
- One way of speeding the research up has been to develop ways of experimenting with genes directly, in order to see what they do. **Gene knockout (KO) studies** involve removing a specific gene and comparing the characteristics of animals with and without that gene.
- **Environmental Influences on Intelligence:**
- Research on the biological underpinnings of intelligence repeatedly emphasizes the importance of environmental factors. Furthermore, brain areas involved in intelligence are responsive to a wide variety of environmental factors.
- **Birth Order:**
- On average, the IQs of first-born children are about three points higher than those of second-born children and four points higher than those of third-born children. One reason for this is that older siblings end up tutoring and mentoring younger siblings, imparting the wisdom they have gained through experience on to their younger siblings. Although this may help the younger sibling, the act of teaching their knowledge benefits the older sibling more. The act of teaching requires the older sibling to rehearse previously remembered information and to reorganize it in a way that their younger sibling will understand. Teaching therefore leads to a deeper processing of the information, which, in turn, increases the likelihood that it will be remembered later.
- **Socioeconomic Status:**
- One of the most robust findings in the intelligence literature is that IQ correlates strongly with socioeconomic status.

- On average, children growing up in wealthy homes have higher IQs than those growing up in poverty.
- **Nutrition:**
- Evidence suggests that poor nutrition could have negative effects on intelligence. Research has shown that diets high in saturated fat quickly lead to sharp declines in cognitive functioning in both animal and human subjects while diets low in saturated fats and high in fruits, vegetables, fish, and whole grains are associated with higher cognitive functioning.
- **Stress:**
- Stress increases the amounts of stress hormones, such as cortisol, in our bodies, which in turn is related to poorer cognitive functioning. Furthermore, high levels of stress also interfere with working memory and the ability to persevere when faced with challenging tasks.
- The toxic effects of chronic stress show up in the brain as well, damaging the neural circuitry of the prefrontal cortex and hippocampus, which are critical for working memory and other cognitive abilities as well as for the consolidation and storage of long-term memories.
- In short, too much stress makes us not only less healthy, but can make us less intelligent as well.
- **The Flynn Effect: Is Everyone Getting Smarter?:**
- The **Flynn effect** refers to the steady population level increases in intelligence test scores over time.
- **Nootropic Drugs:**
- **Nootropic substances** are substances that are believed to beneficially affect intelligence. Nootropics can work through many different mechanisms, from increasing overall arousal and alertness, to changing the availability of certain neurotransmitters, to stimulating nerve growth in the brain.

Definitions:

- **Anthropometrics:** Methods of measuring physical and mental variation in humans.
- **Crystallized intelligence (Gc):** A type of intelligence that draws upon past learning and experience.
- **Deviation IQ:** Calculated by comparing a person's test score with the average score for people of the same age.
- **Entity theory:** The belief that intelligence is a fixed characteristic and relatively difficult (or impossible) to change.
- **Factor analysis:** A statistical technique that examines correlations between variables to find clusters of related variables, or "factors"; In personality analysis, grouping items that people respond to similarly; for instance, the terms friendly and warm.
- **Fluid intelligence (Gf):** A type of intelligence used in learning new information and solving new problems not based on knowledge the person already possesses.
- **Flynn effect:** The steady population level increases in intelligence test scores over time.
- **Gene knockout (KO) studies:** Involve removing a specific gene and comparing the characteristics of animals with and without that gene.
- **General intelligence factor (g):** A person's "mental energy," reflecting Spearman's belief that some people's brains are simply more "powerful" than others.
- **Incremental theory:** The belief that intelligence can be shaped by experiences, practice, and effort.

- **Intelligence:** The ability to think, understand, reason, and adapt to or overcome obstacles.
- **Intelligence quotient/IQ:** A measure of intelligence computed using a standardized test and calculated by taking a person's mental age, dividing it by his or her chronological age, and then multiplying by 100.
- **Mental age:** The average intellectual ability score for children of a specific age.
- **Multiple intelligences:** A model claiming that there are nine different forms of intelligence, each independent from the others.
- **Nootropic substances:** Substances that are believed to beneficially affect intelligence.
- **Raven's Progressive Matrices:** An intelligence test that is based on pictures, not words, thus making it relatively unaffected by language or cultural background.
- **Savant:** An individual with low mental capacity in most domains but extraordinary abilities in other specific areas such as music, mathematics, or art.
- **Stanford-Binet test:** A test intended to measure innate levels of intelligence.
- **Stereotype threat:** Occurs when negative stereotypes about a group cause group members to underperform on ability tests.
- **Triarchic theory of intelligence:** A theory that divides intelligence into three distinct types: analytical, practical, and creative.
- **Video deficit:** Young children do not learn very much from information presented on screens.
- **Wechsler Adult Intelligence Scale (WAIS):** The most common intelligence test in use today for adolescents and adults.

Lecture Notes:

- The study of human development is the examination of continuity and change across the lifespan.
- Four main periods of human development:
    - Prenatality and infancy (conception – 2-3 years)
    - Childhood (2-3 – 11 years)
    - Adolescence (12 – 17 years)
    - Adulthood (18 years – death)
- Our early memories are often vague or non-existent. Furthermore, they tend to occur at around the age of 3 or 4 and they're often very emotional.
- This failure of **autobiographical memory** often leads us to believe that our experiences as young infants are less relevant. However, early experiences in infancy are crucial to normal development and also give rise to many of the myriad individual differences observed across the human population.
- The earliest experiences of the human organism are the five senses, sight, taste, hear, smell and touch.
- The earliest experiences of the human organism occur in utero.
- Childbirth, on average, occurs around 40 weeks.
- The human experience begins with conception, not with birth.
- The **prenatal development** is the period of time prior to birth.
- The **gestational age** is the time since the beginning of the last menstrual period.
- We measure based on gestational age rather than fertilization age because it's more accurate. Most women know the starting day of their last menstrual period but do not know the day of fertilization.
- We divide prenatal age into 3 sections:
    1. Germinal stage:
        - The period of the **zygote**, a one-celled fertilized egg.
        - The newly formed zygote travels through the fallopian tube.
        - Zygotic cells divide, first into two, then into four, and so on.
        - While it is usually defined as 0-2 weeks gestational age, more accurately, it is defined as the time from conception until implementation.
    2. Embryonic stage:
        - 3-8 weeks gestational age.
        - Begins when the zygote implants in the wall of the uterus.
        - Beginning of **cell differentiation**, which is when stem cells get their own special function.
    3. Fetal stage:
        - 9-40 weeks gestational age.
        - Skeleton and muscles develop, allowing movement.
        - Brain development occurs rapidly, allowing for detection of and learning from early experiences.
- The womb is not a vacuum. Fetuses experience stimuli, such as tastes and smells, sounds, tactile sensation and sight in utero.
- In terms of fetal sight, there's not much to see. Very little light penetrates the mammalian uterus, so there is very little **exogenous experience**, experience that comes from outside the organism. However, there's a lot of **endogenous stimulation**, stimuli generated by the organism itself. Retinal cells fire irregularly by 22 weeks gestational age and these provide visual experience to the fetus.

- Fetal audition is more robust than fetal vision. Fetal heartbeat changes in reaction to external voices being played. Fetal heartbeat is different in reaction to music than it is to human speech. Newborn babies (a few minutes old) can recognize their mother's language and their mother's voice.
- 3-day old neonates turn their heads longer toward familiar versus unfamiliar amniotic fluid.
- Not everything that the fetus experiences in utero is positive for its development. One of the most widespread causes of fetal abnormalities is the presence of **teratogens**, external agents that cause damage or death during prenatal development. Teratogens most affect fetuses during a series of **cascading sensitive periods**.
- The most common and preventable teratogen is alcohol. It enters the fetal blood stream. The most severe complication arising from ingestion of alcohol during pregnancy is **Fetal Alcohol Spectrum Disorder (FASD)**:
    1. Facial deformities
    2. Intellectual disability
    3. Attention disability
    4. Behaviour disorders
- There's no such thing as a typical birth.
- The average newborn spends the majority of the day sleeping, about 16 hours per day. We divide this sleep into 2 categories, quiet sleep and active sleep. **Quiet sleep** is when the baby is sleeping for a long period of time. **Active sleep** is when the baby sleeps for a bit, wakes up, and repeats this cycle. The baby spends about half of the time that they're sleeping in REM sleep and the other half in non-REM sleep.
- Neonates spend about 2 hours per day crying. This number increases after birth until about 6 weeks. Most of the crying is often non-communicative until they are older, but can also be due to hunger, discomfort, pain, overstimulation. Crying peaks in late afternoon and evening. All infants go through a period of increased crying between birth and 6 weeks, but some infants cry more than others ("colic").
- **Sensation** is the sensory organs' detection of physical signals in the environment.
- **Perception** is the organization and interpretation of the sensory information into coherent understanding of objects, individuals, events.
- **Preferential looking** is an experimental method in developmental psychology used to gain insight into the young mind/brain. Infants, like adults, choose to spend more of their time looking at objects and events that are interesting or familiar. There are 2 patterns of preferential looking, novelty/interesting and familiarity.
- Newborns' motor skills consist predominantly of reflexes:
    - Grasping
    - Sucking
- After reflexes, the development of sophisticated motor behaviours follows two rules:
    1. **Cephalocaudal rule:** 'Top-to-bottom' rule that describes the tendency for motor skills to emerge in sequence from the head to the feet
    2. **Proximodistal rule:** 'Inside-to-outside' rule that describes the tendency for motor skills to emerge in sequence from the center to the periphery
- Motor development also has a clear effect on visual development as walking provides more visual information than crawling.
- At the same time as their perceptual and motor abilities develop, children learn to think about the world around them. This emergence of the ability to think and understand is called cognitive development.

- Jean Piaget was a Swiss psychologist who pioneered understanding of children's cognitive development by dividing it up into stages:
    1. Sensorimotor stage (0-2 years)
    2. Pre-operational stage (2-6 years)
    3. Concrete operational stage (6-11 years)
    4. Formal operational stage (11 years-adulthood)
- Piaget believed that children move from one stage to the next as they gain knowledge about the world:
    1. Children acquire knowledge.
    2. Children organize this knowledge into a **schema**.
    3. Children acquire new knowledge.
    4. Children add this new knowledge to their existing schema (**assimilation**).
    5. Children acquire new knowledge that does not fit within their existing schema.
    6. Children modify their schema to fit this new knowledge (**accommodation**).
- Two of Piaget's stages occur during infancy and early childhood:
    1. During the **sensorimotor stage** (0-2 years), infants rely predominantly on their movement and senses to learn about the world.
    2. During the **preoperational stage** (2-6 years), children move from **egocentrism** to **sociocentrism**. Children develop a working **theory of mind**, the understanding that human behaviour is guided by mental representations, and that these mental representations differ across individuals.
- One way to measure theory of mind is via false **belief tasks**. There are 2 types of belief tasks:
    1. **Change of location task/Sally-Anne task:**
        a. Failed by most 3-year-olds.
        b. The test goes like this: Sally and Anne are in a room with a ball, a basket and a box. Sally puts the ball in the basket, while Anne is watching, and leaves. Then, Anne puts the ball in the box and leaves. When Sally comes back, where will she look for the ball?
        Most 3-year-olds would say the box.
    2. **Unexpected contents task:**
        a. Failed by most 3 and 4 year olds.
        b. The test goes like this: A mom gives her son a box that has the smarties logo on it and asks him what he thinks is in the box. The son says that smarties are in the box. Then, the mom asks her son to open the box and there are pencils in there. Afterwards, the mom asks her son what his friend Jenny will think is in the box if she saw it.
        Most 3 and 4 year olds will say that Jenny will think there are pencils in the box.
- Some criticisms Piaget's theory:
    1. Piaget underestimated the abilities of infants and young children.
    2. Development is more continuous than Piaget theorized.
    3. Piaget underestimated how sociocentric infants are.
- While infants are more egocentric than older children, sociocentrism of humans is one of our most defining features, even from birth.
- Like some other animals, human children form bonds with their caregivers. This emotional bond is called **attachment** and it is an essential part of healthy human development.

- On the basis of the Strange Situation, Ainsworth proposed four types of attachment:
    1. **Secure attachment** is classified by children who show some distress when their caregiver leaves but are able to compose themselves knowing that their caregiver will return.
    2. **Insecure avoidant** is classified by children who will avoid or ignore their caregiver, showing little emotion when their caregiver departs or returns.
    3. **Insecure ambivalent** is classified by children who are often wary of strangers, even when their caregiver is present. Furthermore, when their caregiver departs, the child is often highly distressed, and the child is generally ambivalent when they return.
    4. **Disorganized/disoriented** is classified by children who are very fearful. Usually, the children have suffered through a traumatizing event.
- Adolescence is the period of development between childhood and adulthood.
- There are two major physiological changes that occur during adolescence: puberty and the increase and refinement of connections in the prefrontal cortex.
- At the same time, major psychological changes also occur: self-esteem, identity, sexuality and morality.
- Young children describe themselves in physical terms and almost always positively. We call this the **positivity bias** or **self-enhancement**.
- 4-year-olds almost always over-enhance and 6-year-olds do so to a lesser degree.
- It is less pronounced for peers than for self.
- **Protective optimism** is when kids believe that positive traits are unchangeable and negative traits are changeable.
- Both positivity bias and protective optimism decline quickly at school age because social comparison begins, perspective-taking increases, and children begin to understand trait stability.
- Young children have high self-esteem while adolescents have relatively lower self-esteem, especially females. Adults gain self-esteem gradually throughout development and elderly adults begin to lose self-esteem.
- However, relatively speaking, self-esteem is relatively consistent across the lifespan. Rank Order Stability: Children with lower self-esteem tend to have lower self-esteem as adults.
- Much of the variability in self-esteem is due to heredity. Identical twins' self-esteem correlates to a greater degree than non-twin siblings'.
- One way in which self-esteem is developed in adolescence is via identity formation.
- Erik Erikson is a German-American developmental scientist (1902 -1994) who developed a theory of conflicts and resolutions. He believed that identity formation was the chief task of adolescence. The conflict is identity versus confusion and the resolution is identity achievement.
- With the emergence of abstract thinking, personality traits become more important.
- With the emergence of self-socialization, friends and social groups become of paramount importance.
- Another thing that happens during adolescence is the **personal fable**, which is the belief that their experience of adolescence is unique and the **imaginary audience**, which is the belief that everyone is watching you. Both of these are remnants of egocentrism from childhood.

- Erikson believed that during identity formation, a number of challenges might emerge:
    1. Identity confusion:
        a. Incomplete and incoherent sense of self.
        b. This is very common.
    2. Identity foreclosure:
        a. Premature identity choice.
    3. Negative identity:
        a. Identity formed in opposition to others/social norms.

  Most individuals, however, emerge from this process with a stable identity.
- Development does not end at age 18. Adults experience widespread changes to their physiology for the remainder of their lives such as brain cell death. These physical changes may cause psychological changes such as changes in memory storage and retrieval and slowing of cognitive processes. But because of their vast experience, adults employ better cognitive strategies and these strategies help make-up for cognitive decline.
- While memory declines in adulthood, different types of memory decline at different rates.
- **Episodic memory** is the ability to remember past events.
- **Semantic memory** is the ability to remember general information.
- Over the lifespan, semantic memory tends to increase for the most part and then levels off while episodic memory decreases.
- In addition to the cognitive changes that occur in adulthood, older adults also attend to stimuli differently than children and younger adults do. Older adults tend to remember positive stimuli better than negative stimuli and older adults' amygdalae are more activated by positive emotions than negative ones.
- Older adulthood is one of the most positive, happiest, satisfying periods of life.
- Older adults also change the way in which they interact with others. While adolescents and young adults tend to value having large social groups, older adults tend to value having close social groups. The number of social partners decline but the quality of social relationships increase. This difference may be related to adults' shorter futures.

Textbook Notes:

- **Module 10.1 Physical Development from Conception through Infancy:**
- **Developmental psychology** is the study of human physical, cognitive, social, and behavioural characteristics across the lifespan.
- **Methods for Measuring Developmental Trends:**
- Studying development requires some special methods for measuring and tracking change over time.
- A **cross-sectional design** is used to measure and compare samples of people at different ages at a given point in time.
- A **longitudinal design** follows the development of the same set of individuals through time. With this type of study, you would select a sample of infants and measure their cognitive development periodically over the course of 20 years.
- While cross-sectional designs are relatively cheap and easy to administer, and they allow a study to be done quickly, they can suffer from **cohort effects**, which are differences between people that result from being born in different time periods.
- A longitudinal study fixes the problem of cohort effects, but are often difficult to carry out and tend to be costly and time consuming to follow, due to the logistic challenges involved in following a group of people for a long period of time.

- **Zygotes to Infants: From One Cell to Billions:**
- The earliest stage of development begins at the moment of conception, when a single sperm is able to find its way into the ovum. At this moment, the ovum releases a chemical that bars any other sperm from entering, and the nuclei of egg and sperm fuse, forming the **zygote**.
- **Fertilization and Gestation:**
- The formation of the zygote through the fertilization of the ovum marks the beginning of the **germinal stage**, the first phase of prenatal development, which spans from conception to two weeks.
- The **embryonic stage** spans weeks two through eight, during which time the embryo begins developing major physical structures such as the heart and nervous system, as well as the beginnings of arms, legs, hands, and feet.
- The **fetal stage** spans week eight through birth, during which time the skeletal, organ, and nervous systems become more developed and specialized. Muscles develop and the fetus begins to move. Sleeping and waking cycles start and the senses become fine-tuned—even to the point where the fetus is responsive to external cues.
- **Fetal Brain Development:**
- The beginnings of the human brain can be seen during the embryonic stage, between the second and third weeks of gestation, when some cells migrate to the appropriate locations and begin to differentiate into nerve cells.
- The first major development in the brain is the formation of the neural tube, which occurs only 2 weeks after conception. A layer of specialized cells begins to fold over onto itself, structurally differentiating between itself and the other cells. This tube-shaped structure eventually develops into the brain and spinal cord.
- The first signs of the major divisions of the brain, the forebrain, midbrain, and hindbrain, are apparent at only 4 weeks.
- Around 7 weeks, neurons and synapses develop in the spinal cord, giving rise to movement.
- By 11 weeks, differentiations between the cerebral hemisphere, the cerebellum, and the brain stem are apparent.
- By the end of the second trimester, the outer surface of the cerebral cortex has started to fold into the distinctive gyri and sulci (ridges and folds) that give the outer cortex its wrinkled appearance. It is around the same time period that a fatty tissue called myelin begins to build up around developing nerve cells, a process called myelination. Myelin insulates nerve cells, enabling them to conduct messages more rapidly and efficiently, thereby allowing for the large-scale functioning and integration of neural networks.
- **Nutrition, Teratogens, and Fetal Development:**
- The rapidly developing fetal brain is highly vulnerable to environmental influences. Proper nutrition is the single most important non-genetic factor affecting fetal development. The nutritional demands of a developing infant are such that women typically require an almost 20% increase in energy intake during pregnancy, including sufficient quantities of protein and essential nutrients. Given that most people's diets do not provide enough of these critical nutrients, supplements are generally considered to be a good idea.
- Fetal malnutrition can have severe consequences, producing low-birth-weight babies who are more likely to suffer from a variety of diseases and illnesses, and are more likely

to have cognitive deficits that can persist long after birth. Children who were malnourished in the womb are more likely to experience attention deficit disorders and difficulties controlling their emotions, due to underdeveloped prefrontal cortices and other brain areas involved in self-control.

- Fetal development can also be disrupted through exposure to **teratogens**, substances, such as drugs or environmental toxins, that impair the process of development.
- **Fetal alcohol syndrome** involves abnormalities in mental functioning, growth, and facial development in the offspring of women who use alcohol during pregnancy.
- There is no safe limit for alcohol consumption by a pregnant woman. Even one drink per day can be enough to cause impaired fetal development. Alcohol readily passes through the placental membranes, leaving the developing fetus vulnerable to its effects, which include reduced mental functioning and impulsivity.
- Smoking can also expose the developing fetus to teratogens, decreasing blood oxygen and raising concentrations of nicotine and carbon monoxide, as well as increasing the risk of miscarriage or death during infancy. Babies born to mothers who smoke are twice as likely to have low birth weight and have a 30% chance of premature birth. Evidence also suggests that smoking during pregnancy increases the risk that the child will experience problems with emotional development and impulse control, as well as attentional and other behavioural problems.
- **Working the Scientific Literacy Model, The Long-Term Effects of Premature Birth:**
- Typically, humans are born at a gestational age around 40 weeks. **Preterm infants** are born earlier than 36 weeks. Premature babies often have underdeveloped brains and lungs.
- With modern medical care, babies born at 30 weeks have a very good chance of surviving (approximately 95%), although for those born at 25 weeks, survival rates drop to only slightly above 50% Although babies born at less than 25 weeks often survive, they run a very high risk of damage to the brain and other major organs.
- **Sensory and Motor Development in Infancy:**
- By month four of prenatal development, the brain starts receiving signals from the eyes and ears. By seven to eight months, not only can infants hear, they seem to be actually listening.
- **Motor Development in The First Year:**
- Although the motor system takes many years to develop a high degree of coordination, the beginnings of the motor system develop very early. A mere five months after conception, the fetus begins to have control of voluntary motor movements. In the last months of gestation, the muscles and nervous system are developed enough to demonstrate basic **reflexes**, involuntary muscular reactions to specific types of stimulation.
- Some key infant reflexes are:
    1. The rooting reflex is elicited by stimulation to the corners of the mouth, which causes infants to orient themselves toward the stimulation and make sucking motions. The rooting reflex helps the infant begin feeding immediately after birth.
    2. The Moro reflex, also known as the “startle” reflex, occurs when infants lose support of their head. Infants grimace and reach their arms outward and then inward in a hugging motion. This may be a protective reflex that allows the infant to hold on to the mother when support is suddenly lost.
    3. The grasping reflex is elicited by stimulating the infant’s palm. The infant’s grasp is remarkably strong and facilitates safely holding on to one’s caregiver.

- Reflexes also provide important diagnostic information concerning the infant's development. If the infant is developing normally, most of the primary, basic reflexes should disappear by the time the infant is about 6 months old. If these reflexes persist longer than about six months, this may indicate neural issues that may interfere with developing proper motor control.
- Over the first 12 to 18 months after birth, infants' motor abilities progress through fairly reliable stages—from crawling, to standing, to walking. The age at which infants can perform each of these movements differs from one individual to the next. In contrast to reflexes, the development of motor skills seems to rely more on practice and deliberate effort.
- One area of the body that undergoes astonishing development during infancy is the brain. One key change is the myelination of axons, which begins prenatally, accelerates through infancy and childhood, and then continues gradually for many years. Myelination is centrally important for the proper development of the infant, and occurs in a reliable sequence, starting with tactile and kinesthetic systems, then moving to the vestibular, visual, and auditory systems. Myelination of sensorimotor systems allows for the emergence of voluntary motor control. By 12 months of age, the myelination of motor pathways can be seen in the infant's newfound abilities to stand and balance, begin walking, and gain voluntary control over the pincer grasp.
- Two other neural processes, synaptogenesis and synaptic pruning, further help to coordinate the functioning of the developing brain. **Synaptogenesis** describes the forming of new synaptic connections, which occurs at blinding speed through infancy and childhood and continues through the lifespan. **Synaptic pruning**, the loss of weak nerve cell connections, accelerates during brain development through infancy and childhood, then tapers off until adolescence. Synaptogenesis and synaptic pruning serve to increase neural efficiency by strengthening needed connections between nerve cells and weeding out unnecessary ones.
- **<u>Module 10.2 Infancy and Childhood: Cognitive and Emotional Development:</u>**
- A **sensitive period** is a window of time during which exposure to a specific type of environmental stimulation is needed for normal development of a specific ability.
- **Cognitive Changes: Piaget's Cognitive Development Theory:**
- **Cognitive development** is the study of changes in memory, thought, and reasoning processes that occur throughout the lifespan.
- **Assimilation** is fitting new information into the belief system one already possesses.
- **Accommodation** is a creative process whereby people modify their belief structures based on experience.
- Piaget concluded that cognitive development passes through four distinct stages from birth through early adolescence: sensorimotor, preoperational, concrete operational, and formal operational stages.

Stage	**Description**
Sensorimotor (0–2 years)	Cognitive experience is based on direct sensory experience with the world, as well as motor movements that allow infants to interact with the world. Object permanence is the significant developmental milestone of this stage.

Preoperational (2–7 years)	Thinking moves beyond the immediate appearance of objects. The child understands physical conservation and that symbols, language, and drawings can be used to represent ideas.
Concrete operational (7–11 years)	The ability to perform mental transformations on objects that are physically present emerges. Thinking becomes logical and organized.
Formal operational (11 years–adulthood)	The capacity for abstract and hypothetical thinking develops. Scientific reasoning becomes possible.

- **The Sensorimotor Stage: Living in The Material World:**
- The earliest period of cognitive development is known as the **sensorimotor stage**; this stage spans from birth to two years, during which infants' thinking about and exploration of the world are based on immediate sensory and motor experiences. During this time, infants are completely immersed in the present moment, responding exclusively to direct sensory input. As soon as an object is out of sight and out of reach, it will cease to exist.
- However, this is not how the world works, and thus, the first major milestone of cognitive development proposed by Piaget is **object permanence**, the ability to understand that objects exist even when they cannot be directly perceived.
- **The Preoperational Stage: Quantity and Numbers:**
- According to Piaget, once children have mastered sensorimotor tasks, they have progressed to the **preoperational stage** (ages two to seven). This stage is devoted to language development, the use of symbols, pretend play, and mastering the concept of conservation. During this stage, children can think about physical objects, although they have not quite attained abstract thinking abilities. They may count objects and use numbers, yet they cannot mentally manipulate information or see things from other points of view.
- This inability to manipulate abstract information is shown by testing a child's understanding of **conservation**, the knowledge that the quantity or amount of an object is not the same as the physical arrangement and appearance of that object.
- **The Concrete Operational Stage: Using Logical Thought:**
- Conservation is one of the main skills marking the transition from the preoperational stage to the **concrete operational stage** (ages 7 to 11 years), when children develop skills in logical thinking and manipulating numbers.
- Children in the concrete operational stage are able to classify objects according to properties such as size, value, shape, or some other physical characteristic. Their thinking becomes increasingly logical and organized.
- **The Formal Operational Stage: Abstract and Hypothetical Thought:**
- The **formal operational stage** (ages 11 to adulthood) involves the development of advanced cognitive processes such as abstract reasoning and hypothetical thinking. Scientific thinking, such as gathering evidence and systematically testing possibilities, is characteristic of this stage.

- **Working the Scientific Literacy Model Evaluating Piaget:**
- The **core knowledge hypothesis** proposes that infants have inborn abilities for understanding some key aspects of their environment.
- One frequently used method for answering how can we know what infants know or what they perceive relies on the habituation–dishabituation response. **Habituation** refers to a decrease in responding with repeated exposure to an event. **Dishabituation** refers to an increase in responsiveness with the presentation of a new stimulus.
- **Complementary Approaches to Piaget:**
- Russian psychologist Lev Vygotsky proposed that development is ideal when children attempt skills and activities that are just beyond what they can do alone, but they have guidance from adults who are attentive to their progress; this concept is termed the **zone of proximal development**. Teaching in order to keep children in the zone of proximal development is called **scaffolding**, a highly attentive approach to teaching in which the teacher matches guidance to the learner's needs.
- **Social Development, Attachment, and Self-Awareness:**
- Understanding the intense social bonding that occurs between humans revolves around the central concept of **attachment**, the enduring emotional bond formed between individuals, initially between infants and caregivers. Attachment motivations are deeply rooted in our psychology, compelling us to seek out others for physical and psychological comfort, particularly when we feel stressed or insecure. Infants draw upon a remarkable repertoire of behaviours that are geared towards seeking attachment, such as crying, cooing, gurgling, and smiling, and adults are generally responsive to these rudimentary but effective communications.
- **Types of Attachment:**
- Mary Ainsworth developed a procedure called **strange situation**, which is a way of measuring infant attachment by observing how infants behave when exposed to different experiences that involve anxiety and comfort.
- The procedure involves a sequence of scripted experiences that expose children to some mild anxiety (e.g., the presence of a stranger, being left alone with the stranger), and the potential to receive some comfort from their caregiver. In each segment of the procedure, the child's behaviour is carefully observed. Ainsworth noted three broad patterns of behaviour that she believed reflected three different attachment styles:
    1. **Secure attachment.** The caregiver is a secure base that the child turns toward occasionally, "checking in" for reassurance as she explores the room. The child shows some distress when the caregiver leaves, and avoids the stranger. When the caregiver returns, the child seeks comfort and her distress is relieved.
    2. **Insecure attachment.** Two subtypes were distinguished:
        a. **Anxious/Ambivalent.** The caregiver is a base of security, but the child depends too strongly on the caregiver, exhibiting "clingy" behaviour rather than being comfortable exploring the room on his own. The child is very upset when the caregiver leaves, and is quite fearful toward the stranger. When the caregiver returns, the child seeks comfort, but then also resists it and pushes the caregiver away, not allowing his distress to be easily alleviated.
        b. **Avoidant.** The child behaves as though she does not need the caregiver at all, and plays in the room as though she is oblivious to the caregiver. The child is not upset when the caregiver leaves, and is unconcerned

about the stranger. When the caregiver returns, the child does not seek contact.

3. Subsequent research identified a fourth attachment style which is best characterized by instability. The child has learned that caregivers are sources of both fear and comfort, leaving the child oscillating between wanting to get away and wanting to be reassured. The child experiences a strong ambivalence, and reinforces this through his own inconsistent behaviour, seeking closeness and then pulling away, or often simply "freezing," paralyzed with indecision.

- **Development of Attachment:**
- Research consistently has shown that one's attachment style largely reflects one's early attachment experiences.
- **Self Awareness:**
- Between 18–24 months of age, toddlers begin to gain **self-awareness**, the ability to recognize one's individuality. Becoming aware of one's self goes hand-in-hand with becoming aware of others as separate beings, and thus, self-awareness and the development of pro-social and moral motivations are intricately intertwined.
- Young children are often described as **egocentric**, meaning that they only consider their own perspective. This does not imply that children are selfish or inconsiderate, but that they merely lack the cognitive ability to understand the perspective of others.
- Modern research indicates that children take the perspective of others long before the preoperational phase is complete. Perspective taking in young children has been demonstrated in studies of **theory of mind**—the ability to understand that other people have thoughts, beliefs, and perspectives that may be different from one's own.
- **Development Across The Lifespan:**
- Erikson's theory of development across the lifespan included elements of both cognitive and social development. Erikson's theory centred around the notion that at different ages, people face particular developmental crises, or challenges, based on emotional needs that are most relevant to them at that stage of life.
- The first stage, infancy, focuses on the issue of trust vs. mistrust. The infant's key challenge in life is developing a basic sense of security, of feeling comfortable (or at least not terrified) in a strange and often indifferent world.
- The second stage, toddlerhood, focuses on the challenge of autonomy vs. shame. The toddler, able to move herself about increasingly independently, is poised to discover a whole new world. The toddler discovers that she is a separate creature from others and from the environment; thus, exploring her feelings of autonomy becomes very important.
- By the end of the first two stages, the person is, ideally, secure, and they feel a basic sense of themselves as having separate needs from others. On the other hand, if these stages were not successfully navigated, the person may struggle with feelings of inadequacy or low self-worth, and these will play out in their subsequent development.
- The third stage, early childhood, is characterized as the challenge of initiative vs. guilt. Building on the emotional security and sense of self-assurance that comes from the first two stages, here the growing child learns to take responsibility for herself while feeling like she has the ability to influence parts of her physical and social world.
- The fourth stage, childhood, is all about industry vs. inferiority. Here the child is focused on the tasks of life, particularly school and the various skill development activities that take place for that big chunk of childhood.

- **Parenting and Attachment:**
- In humans, the tension between helping others versus being concerned for oneself reflects a kind of tug-of-war between two psychobiological systems, the **attachment behavioural system**, which is focused on meeting our own needs for security, and the **caregiving behavioural system**, which is focused on meeting the needs of others.
- Each system guides our behaviour when it is activated. The attachment system is primary, and if it is activated, it tends to shut down the caregiving system.
- Children who experience their parents' regard for them as conditional report more negativity and resentment toward their parents; they also feel greater internal pressure to do well, which is called **introjection**, the internalization of the conditional regard of significant others. Furthermore, research clearly shows that moral development and healthy attachment is associated with more frequent use of **inductive discipline**, which involves explaining the consequences of a child's actions on other people, activating empathy for others' feelings.
- **Module 10.3 Adolescence:**
- **Physical Changes in Adolescence:**
- Usually, puberty begins at approximately age 11 in girls and age 13 in boys.
- The changes that occur during puberty are primarily caused by hormonal activity. Physical growth is stimulated by the pituitary gland, under the control of the hypothalamus, which regulates the release of hormones such as testosterone and estrogen. These hormones also contribute to the development of primary and secondary sex traits in boys and girls.
- **Primary sex traits** are changes in the body that are part of reproduction.
- **Secondary sex traits** are changes in the body that are not part of reproduction.
- For girls, **menarche**, the onset of menstruation, typically occurs around age 12. The timing of menarche is influenced by physiological and environmental factors, such as nutrition, genetics, physical activity levels, illness, and family structure, such as the absence of a father.
- Boys are considered to reach sexual maturity at **spermarche**, their first ejaculation of sperm, at around age 14.
- **Emotional Regulation During Adolescence:**
- Adolescence is a time when teens must learn to control their emotions. Research has shown that one key to adolescents effectively regulating their emotions is to be able to draw flexibly upon a diverse set of self-control strategies. Adolescents who rely upon a limited number of adaptive strategies and narrowly rely upon their chosen strategies are at greater risk for developing symptoms of anxiety and depression.
- The ability to reframe is critical to one of the most important skills adolescents need to hone as they move into adulthood—the ability to **delay gratification**, putting off immediate temptations in order to focus on longer-term goals.
- Adolescents often make bad judgment calls because adolescence is a perfect storm of risk-inducing factors, including a teenage culture that glorifies high-risk activities, intense peer pressure, increased freedom from parents, a growing ability to critically question the values and traditions of society, and a brain that is ripe for risk due to still-developing cognitive control systems and well-developed reward systems located in limbic areas.
- Making wise decisions depends on the prefrontal cortex. This area is involved in higher cognitive abilities, such as abstract reasoning and logic, which also begin to show substantial improvements starting at about age 12.

- **Kohlberg's Moral Development: Learning Right From Wrong:**
- At the preconventional level, people reason largely based on self-interest. At the conventional level, people reason largely based on social conventions and the dictates of authority figures. At the postconventional level, people reason based on abstract principles such as justice and fairness, thus enabling them to critically question and examine social conventions, and to consider complex situations in which different values may conflict.
- The shift to postconventional morality is a key development, for without this shift, it is unlikely that the individual will rebel against authority or work against unjust practices if they are accepted by society at large.
- **Who am I? Identity Formation During Adolescence:**
- A major issue faced by adolescents is forming an **identity**, which is a clear sense of what kind of person you are, what types of people you belong with, and what roles you should play in society.
- In fact, forming an identity is so important in the teenage years that adolescents may actually experience numerous identity crises before they reach young adulthood. An identity crisis involves curiosity, questioning, and exploration of different identities. It can also involve attaching oneself to different goals and values, different styles of music and fashion, and different subcultural groups, all the while wondering where one best fits in, and who one really is.
- **<u>Module 10.4 Adulthood and Aging:</u>**
- **Early and Middle Adulthood:**
- People in their 20s to 40s are usually stronger, faster, and healthier than young children or older people.
- After adolescence, when one has finished growing, one enters a kind of plateau period of physical development in which the body changes quite slowly. For women, this period starts to shift at approximately age 50 with the onset of **menopause**, the termination of the menstrual cycle and reproductive ability.
- The physical changes associated with menopause, particularly the reduction in estrogen, can result in symptoms such as hot flashes, a reduced sex drive, and mood swings.
- **Love and Marriage:**
- By observing a couple interacting in his wonderfully named "love lab," Gottman has noticed that certain patterns of behaviour are highly predictive of relationship break-up. He calls them the Four Horsemen of the Apocalypse. They include:
    - **Criticism:** Picking out flaws, expressing disappointments, correcting each other, and making negative comments about a spouse's friends and family.
    - **Defensiveness:** Responding to perceived attacks with counter-attacks.
    - **Contempt:** Dismissive eye rolls, sarcastic comments, and a cutting tone of voice.
    - **Stonewalling:** Shutting down verbally and emotionally.
- **Happiness and Relationships:**
- Developmental psychologists describe a type of personal development through the lens of **socioemotional selectivity theory**, which describes how older people have learned to select for themselves more positive and nourishing experiences.
- **The Eventual Decline of Aging:**
- **Dementia** is a mild to severe disruption of mental functioning, memory loss, disorientation, and poor judgment and decision making.
- Nearly 10% of cases of dementia involve the more severe **Alzheimer's disease**, a degenerative and terminal condition resulting in severe damage to the entire brain.

Definitions:

- **Accommodation:** A creative process whereby people modify their belief structures based on experience.
- **Alzheimer's disease:** A degenerative and terminal condition resulting in severe damage of the entire brain.
- **Assimilation:** A conservative process, whereby people fit new information into the belief systems they already possess.
- **Attachment:** The enduring emotional bond formed between individuals.
- **Attachment behavioural system:** Focused on meeting our own needs for security.
- **Caregiving behavioural system:** Focused on meeting the needs of others.
- **Cognitive development:** The study of changes in memory, thought, and reasoning processes that occur throughout the lifespan.
- **Cohort effects:** Differences between people that result from being born in different time periods.
- **Concrete operational stage:** (ages 7 to 11 years) developmental stage at which children develop skills in logical thinking and manipulating numbers.
- **Conservation:** The knowledge that the quantity or amount of an object is not the same as the physical arrangement and appearance of that object.
- **Conventional morality:** Regards social conventions and rules as guides for appropriate moral behaviour.
- **Core knowledge hypothesis:** The theory that infants have inborn abilities for understanding some key aspects of their environment.
- **Cross-sectional design:** Used to measure and compare samples of people at different ages at a given point in time.
- **Delay gratification:** Putting off immediate temptations in order to focus on longer-term goals.
- **Dementia:** Mild to severe disruption of mental functioning, memory loss, disorientation, poor judgment, and decision making.
- **Developmental psychology:** The study of human physical, cognitive, social, and behavioural characteristics across the lifespan.
- **Dishabituation:** The recovery of responsiveness to a habituated stimulus as the result of the presentation of a new stimulus.
- **Egocentric:** Seeing the world only from one's own perspective.
- **Embryonic stage:** Spans weeks two through eight of the gestational period, during which time the embryo begins developing major physical structures such as the heart and nervous system, as well as the beginnings of arms, legs, hands, and feet.
- **Fetal alcohol syndrome:** Abnormalities in mental functioning, growth, and facial development in the offspring of women who use alcohol during pregnancy.
- **Fetal stage:** Spans week eight through birth of the gestational period, during which time the skeletal, organ, and nervous systems become more developed and specialized.
- **Formal operational stage:** (ages 11 to adulthood) the development of advanced cognitive processes such as abstract reasoning and hypothetical thinking.
- **Germinal stage:** The first phase of prenatal development, which spans from conception to two weeks.
- **Habituation:** A decrease in responding with repeated exposure to a stimulus or event.
- **Identity:** A clear sense of what kind of person you are, what types of people you belong with, and what roles you should play in society.

- **Inductive discipline:** Involves explaining the consequences of a child's actions on other people, activating empathy for others' feelings.
- **Introjection:** The internalization of the conditional regard of significant others.
- **Longitudinal design:** A research design that follows the development of the same set of individuals through time.
- **Menarche:** The onset of menstruation.
- **Menopause:** The termination of the menstrual cycle and reproductive ability in women.
- **Object permanence:** The ability to understand that objects exist even when they cannot be directly perceived.
- **Postconventional morality:** Considers rules and laws as relative.
- **Preconventional morality:** Characterized by self-interest in seeking reward or avoiding punishment.
- **Preoperational stage:** (ages two to seven) the stage of development devoted to language development, using symbols, pretend play, and mastering the concept of conservation.
- **Preterm infants:** An infant born earlier than 36 weeks of gestation.
- **Primary sex traits:** Changes in the body that are part of reproduction.
- **Reflexes:** Involuntary muscular reactions to specific types of stimulation.
- **Scaffolding:** A highly attentive approach to teaching in which the teacher matches guidance to the learner's needs.
- **Secondary sex traits:** Changes in the body that are not part of reproduction.
- **Self-awareness:** The ability to recognize one's individuality.
- **Sensitive period:** A window of time in which exposure to a specific type of environmental stimulation is needed for normal development of a specific ability.
- **Sensorimotor stage:** From birth to two years, a time during which infants' thinking about and exploration of the world are based on immediate sensory and motor experiences.
- **Socioemotional selectivity theory:** Describes how older people have learned to select for themselves more positive and nourishing experiences.
- **Strange situation:** A way of measuring infant attachment by observing how infants behave when exposed to different experiences that involve anxiety and comfort.
- **Spermarche:** During puberty, a male's first ejaculation of sperm.
- **Synaptic pruning:** The loss of weak nerve cell connections.
- **Synaptogenesis:** The forming of new synaptic connections.
- **Temperament:** A general emotional reactivity typically found in infants that serves as the basis for the development of adult personality.
- **Teratogens:** Substances, such as drugs or environmental toxins, that impair the process of fetal development.
- **Theory of mind:** The ability to understand that other people have thoughts, beliefs, and perspectives that may be different from one's own.
- **Zone of proximal development:** The concept that development is ideal when children attempt skills and activities that are just beyond what they can do alone, but they have guidance from adults who are attentive to their progress.
- **Zygote:** The initial cell formed when the nuclei of egg and sperm fuse.

Lecture Notes:

- IQ tests only attempt to measure some types of intelligence.
- Emotional intelligence is not tested by traditional IQ tests. Emotional intelligence is the ability to reason about emotions and to use emotions to enhance reasoning. Some examples of emotional intelligence are identification of one's own emotions, description of one's own emotions, management of one's own emotions and detection of others' emotions.
- Individuals have different levels of emotional intelligence.
- Individuals with high emotional intelligence show less brain activation when solving emotional problems.
- Emotion is a positive or negative experience in response to a stimulus and associated with a particular pattern of physiological activity. Emotions are measured on 2 dimensions, valence (positive or negative) and psychological arousal (severity).

- There are four major theories of emotion: common sense, James-Lange, Cannon-Bard and Two-factor. These theories disagree on what causes emotion.
- The **James-Lange theory** holds that the stimulus in the environment triggers a physiological response, and that physiological response activates an emotional response.
- The **Cannon-Bard theory** holds that the stimulus activates the physiological and the emotional state simultaneously.
- The **two-factor (Schachter) theory** of emotional processing argues that the stimulus produces a physiological state, and the brain interprets that physiological state emotionally.
- The **common-sense view** of emotion holds that we perceive a stimulus in our environment first, which then prompts an emotional response second, followed by physiological responses third.
- Two major neural structures related to emotion are the amygdala and the prefrontal cortex.
- The amygdala is a relatively primitive part of the limbic system that quickly processes biologically relevant information.
- The prefrontal cortex is a relatively advanced part of the brain that slowly processes information rationally.
- Emotional regulation involves learned strategies. For the first 6 months, infants do not appear to self-regulate their emotions. Most regulation comes from the parents. After 6 months, some rudimentary self regulation appears, such as self-soothing and gaze aversion. Not all emotional regulation is learned, much of it is related to our temperament.
- Emotional expressions are observable signs of an emotional state, not symbols. They include facial expressions, tone of voice, body language and rhythm of gait. Gait means how the person is walking.
- Charles Darwin proposed that facial expressions are evolved and therefore are universal in the human population. This is called the **universality hypothesis**. Darwin believed that facial gestures were evolved in order to aid in survival.
- Support for the universality hypothesis includes:
    - Individuals with visual impairments that have never seen a human face smile similarly to seeing humans.
    - 2-day-old infants produce disgusted facial expressions similar to those of adults.
    - Isolated cultures evaluate Westerners' facial expressions the same way that other Westerners do.
- Arguments against the universality hypothesis includes:
    - Relationships between different emotions are different across cultures.
- While most of us would answer that the emotional state comes first and the facial expression follows, the facial feedback hypothesis holds that emotional facial expressions can cause/change an individual's emotional experience.
- We have various strategies for hiding our emotions: intensification, deintensification, masking, and neutralizing.
  E.g. Suppose you got a pair of socks as a gift for christmas. While deep down, you may feel disappointed or neutral, you should intensify your emotions.
- There are a number of ways to determine whether facial expressions are real or not:
    1. **Morphology:** Certain facial muscles are resistant to conscious change (the reliable muscles).

2. **Symmetry:** Asymmetric facial gestures are often insincere.
3. **Duration:** Sincere facial gestures last between 0.5s and 5s.
4. **Temporal patterning:** Microexpressions appear first and are sincere. Furthermore, sincere facial gestures appear and disappear gradually rather than suddenly.

- **Motivation** is the psychological reason for producing an action. It is primarily driven by emotion. One of the primary ways in which emotion changes our actions is by giving us information about an object, event, or individual. Brain damage to emotional regions of the brain (e.g. the amygdala) can cause severe indecision in patients.
- Emotion also provides us with instructions on what to do with new information.
- Ancient philosophers believed that human motivation is centred on the **hedonic principle**, which states that all motivation extends from attraction to pleasure and avoidance of pain. According to this principle, our primary motivator for everything we do is ultimately pleasure. We can trace even unpleasant activities to this pleasure goal.
- The hedonic principle explains human motivation at a basic level. Psychologists have attempted to break down human motivation into more specific categories. One framework is Maslow's needs hierarchy.
- Humans share with other animals the basic needs for nutrition and sex. These are at the bottom of the needs hierarchy and generally must be satisfied before other needs are even noticed. These **needs** are technically called **drives**. We satisfy these drives with **incentives**.
  E.g. For food: Drive = hunger, incentive = food
- Another way of understanding motivation is via three psychological dimensions:
  - Intrinsic vs. extrinsic
  - Conscious vs. unconscious
  - Approach vs. avoidance
- **Intrinsic motivation** is the motivation to take actions that are themselves rewarding. E.g. Eating junk food, if you like it.
- **Extrinsic motivation** is the motivation to take actions that eventually lead to a separate reward. This reward is often social or monetary. Extrinsic motivation tends to be relatively weak in early childhood and among nonhuman animals.
- **Approach motivation** is the motivation to experience a positive outcome.
- **Avoidance motivation** is the motivation to not experience a negative outcome.
- Avoidance motivation is usually stronger, but the relative strength of avoidance and approach motivations differs across individuals.

Textbook Notes:

- **Module 11.1 Hunger and Eating:**
- **Motivation** concerns the physiological and psychological processes underlying the initiation of behaviours that direct organisms toward specific goals.
- At its most basic level, motivation is essential to an individual's survival because it contributes to **homeostasis**, the body's physiological processes that allow it to maintain consistent internal states in response to the outer environment.
- A **drive** is a biological trigger that tells us we may be deprived of something and causes us to seek out what is needed, such as food or water.
- The stimuli we seek out in order to reduce drives are known as **incentives**.
- **Allostasis** is the motivation that is not only influenced by current needs, but also by the anticipation of future needs caused by stress.
- **Physiological Aspects of Hunger:**

- Hunger is not simply a homeostatic mechanism. The need to consume enough nutrients so that you have enough energy to function involves physiological responses as well as more complex cognitive and emotional factors.
- The “on” and “off” switches involved in hunger can be found in a few regions of the **hypothalamus**, a set of nuclei found on the bottom surface of the brain.
- Researchers have found that electrically stimulating the lateral hypothalamus causes rats to begin to eat. Thus, this structure may serve as an “on” switch. In contrast, stimulating the ventromedial region of the hypothalamus causes rats to stop eating.
- The hypothalamus detects changes in the level of **glucose**, a sugar that serves as a primary energy source for the brain and the rest of the body. Highly specialized neurons called glucostats can detect glucose levels in the fluid outside of the cell. If these levels are too low, glucostats signal the hypothalamus that energy supplies are low, leading to increased hunger.
- **Food and Reward:**
- A full stomach is one cue for **satiation**, the point in a meal when we are no longer motivated to eat. That feeling is caused, in part, by cholecystokinin (CCK). Neurons release CCK when the intestines expand. The ventromedial hypothalamus receives this information and decreases appetite.
- **Attention and Eating:**
- **Unit bias** is the tendency to assume that the unit of sale or portioning is an appropriate amount to consume.
- A single banana comes individually wrapped and makes for a healthy portion; it is an ideal unit. In contrast, packaged foods often come in sizes that are too large to be healthy. A bottle of pop today is likely to be 600 mL, but a few decades ago the same brand of soda came in a 177 mL bottle. Despite the huge difference in volume, each is seen as constituting one unit of pop.
- **Eating and Semantic Networks:**
- Our food selections can be influenced by the presence of certain other foods. These items, known as **trigger foods**, affect the selection of healthy and unhealthy foods simply by being present among possible food alternatives.
- **Eating and the Social Context:**
- In addition to physical and cognitive influences, food intake is affected by social motives as well.
- Here are a few examples of food intake being affected by social motives:
    1. **Social facilitation:** Eating more. Dinner hosts may encourage guests to take second and even third helpings, and individuals with a reputation for big appetites will be prodded to eat the most.
    2. **Impression management:** Eating less. Sometimes people self-consciously control their behaviour so that others will see them in a certain way.
    3. **Modelling:** Eating whatever they eat. At first exposure to a situation, such as a business dinner, a new employee may notice that no one eats much and everyone takes their time. The newcomer will see the others as models, and so he too will restrain his eating.
- **Disorders of Eating:**
- The past few decades have seen a dramatic rise in the rates of **obesity**, a disorder of positive energy balance, in which energy intake exceeds energy expenditure.
- **Anorexia and Bulimia:**
- **Anorexia nervosa** is an eating disorder that involves self-starvation, intense fear of

weight gain and dissatisfaction with one's body, and denial of the serious consequences of severely low weight.

- **Bulimia nervosa** is an eating disorder that is characterized by periods of food deprivation, binge-eating, and purging. The periods of binging involve short bursts of intense calorie consumption. These are followed by purging, fasting, laxative or diuretic use, and/or intense exercise.
- Statistical Characteristics of Eating Disorders:

Lifetime prevalence of anorexia	Women: 0.9%, Men: 0.3%
Lifetime prevalence of bulimia	Women: 1.5%, Men: 0.5%
Women and Men Combined	
Percentage of people with anorexia who are receiving treatment	34%
Percentage of people with bulimia who are receiving treatment	43%
Average duration of anorexia	1.7 years
Average duration of bulimia	8 years

- Studies have found that bulimia is marked by a tendency to be impulsive, whereas anorexia is not. Bulimics are also much more likely to enter treatment programs because they find the binge–purge cycle disturbing. Anorexics, on the other hand, often appear indifferent to the negative effects of food deprivation on their health.
- Some factors/reasons why some people develop eating disorders but not others include stress, depression, guilt, anxiety, perfectionism,low self-esteem, suppressed anger, peer influence and family issues.
- **Module 11.2 Sex:**
- **Libido** is the motivation for sexual activity and pleasure.
- **Human Sexual Behaviour Physiological Influences:**
- One of the first scientists to tackle the topic of human sexual behaviour was zoology professor Alfred Kinsey.
- The **sexual response cycle** describes the phases of physiological change during sexual activity, which comprises four primary stages: excitement, plateau, orgasm, and resolution.
- Dividing the sexual response cycle into phases allowed the researchers to describe the cascade of physiological changes that occur during sexual behaviour. The cycle applies to both male and female sexual responses, although there are differences between sexes in how these stages are experienced and their duration.
- Men usually experience a single orgasm followed by a **refractory period**, a time period during which erection and orgasm are not physically possible. In contrast, some women

experience multiple orgasms without a refractory period.

- **Sexual Orientation Biology and Environment:**
- **Sexual orientation** is the consistent preference for sexual relations with members of the opposite sex (heterosexuality), same sex (homosexuality), or either sex (bisexuality).
- **Transgender and Transsexual Individuals:**
- The term **transgender** refers to individuals who experience a mismatch between the gender that they identify with and their biological sex. It does not refer to an individual's sexual orientation.
- The term **transsexual** refers to the subset of transgender individuals who wish to permanently transition from their birth sex to the gender with which they identify.
- **Human Sexual Behaviour Cultural Influences:**
- **Gender roles** are the accepted attitudes and behaviours of males and females in a given society.
- These gender roles are flexible and change across generations.
- **Sexual scripts** are the set of rules and assumptions about the sexual behaviours of males and females. For most of human history, male sexual behaviour was based on competition. Females, on the other hand, would be taught to be less promiscuous and to focus on developing a stable relationship before engaging in sexual intercourse
- Males have higher levels of **testosterone**, a hormone that is involved in the development of sex characteristics and the motivation of sexual behaviour.
- It is important to note that not all females or males follow the same sexual scripts. Researchers have found that **sex guilt**, negative emotional feelings for having violated culturally accepted standards of appropriate sexual behaviour, is a major factor in these differences.
- Sexual scripts also exist in homosexual relationships.
- **Working the Scientific Literacy Model Does Sex Sell:**
- The results of numerous studies show that sex can sell, in certain situations.
- **Module 11.3 Social and Achievement Motivation:**
- **Belonging and Love Needs:**
- Abraham Maslow described a "hierarchy of needs," with needs associated with our basic physiological survival being more important than social or achievement needs.
- According to Maslow, once survival needs are met, then we can move to higher-level needs such as belonging or the need for self-esteem.
- At the highest point of this model lies self-actualization, the point at which a person reaches his or her full potential as a creative, deep-thinking, and accepting human being.
- **Belonging is a Need Not a Want:**
- The **need to belong**, sometimes known as affiliation motivation, is the motivation to maintain relationships that involve pleasant feelings such as warmth, affection, appreciation, and mutual concern for each person's well-being.
- In addition, an individual must have the sense that these feelings are part of a permanent relationship, such as a friendship, kinship, or shared group membership. A strong sense of belonging brings more than warmth and happiness.
- Research has demonstrated that loneliness is a risk factor for illnesses such as heart disease and cancer. It also elevates a person's risk for having hypertension, a weaker immune system, and high levels of stress hormones.
- **Love:**
- Psychologists suggested that love is composed of two main components: passionate

love and companionate love.

- **Passionate love** is associated with a physical and emotional longing for the other person. We feel passionate love at the beginning of a relationship, when we are just getting to know the other person and everything is new. Recent brain-imaging research has shown that feelings of passionate love are associated with activity in areas of the brain related to physical rewards as well as the insula, a region that is sensitive to internal bodily feelings such as having "butterflies in the stomach".
- **Companionate love** is related to tenderness and to the affection we feel when our lives are intertwined with another person. Although passionate love is certainly more exciting, companionate love appears to have a greater influence on the long-term stability of a relationship.
- Love may be a goal-oriented state in a way that is similar to hunger and sex drives.
- **Working the Scientific Literacy Model Terror Management Theory and the Need to Belong:**
- **Terror management theory (TMT)** is a psychological perspective asserting that the human fear of mortality motivates behaviour, particularly those that preserve self-esteem and our sense of belonging.
- The knowledge of death has the potential to be terrifying; however, very few of us experience this anxiety on a daily basis. Instead, we tend to use anxiety buffers, concepts and beliefs that prevent death-related anxiety from entering our conscious mind. One anxiety buffer is known as the cultural worldview, a belief system about how our world should work. This system provides us with a sense of order and stability in life, feelings that makes it seem as though death were not an immediate possibility.
- Psychologists typically study TMT by manipulating how aware participants are of death, something they refer to as mortality salience.
- **Achievement Motivation:**
- **Achievement motivation** refers to the drive to perform at high levels and to accomplish significant goals. It is a very strong force in human behaviour.
- An **approach goal** is an enjoyable and pleasant incentive that a person is drawn toward, such as praise, financial reward, or a feeling of satisfaction.
- An **avoidance goal** is an attempt to avoid an unpleasant outcome such as shame, embarrassment, losing money, or feeling emotional pain.
- **Self-Determination Theory:**
- Researchers have identified three universal needs:
    - Relatedness: Feeling connected with others, a need satisfied by forming meaningful bonds with other people such as family members, teammates, or colleagues at school and work.
    - Autonomy: The need to feel in control of your own life.
    - Competence: The ability to perform a task at a skill level that is satisfying to the individual.
- **Self-efficacy** is an individual's confidence that he or she can plan and execute a course of action in order to solve a problem. When people experience high levels of self-efficacy, their performance improves and they are motivated to choose more challenging tasks to perform.
- The **self-determination theory** is a theory that states that an individual's ability to achieve their goals and attain psychological well-being is influenced by the degree to which he or she is in control of the behaviours necessary to achieve those goals. If we are able to achieve this control, or at least feel like we have control, then we will be more

motivated to perform the actions necessary to achieve that goal. We will also be happier.

- **Extrinsic and Intrinsic Motivation:**
- **Extrinsic motivation/performance motive** is the motivation geared toward gaining rewards or public recognition, or avoiding embarrassment.
- This form of motivation is not always the most effective, as it requires a person to give up some autonomy.
- Taken to its most extreme, people can become **amotivational**, a feeling of having little or no motivation to perform a behaviour.
- **Intrinsic motivation/mastery motive** is the process of being internally motivated to perform behaviours and overcome challenges.
- It is important to note that intrinsic and extrinsic motivation are not completely separate. Rather, intrinsic motivation, extrinsic motivation, and amotivation can be placed on a continuum that depicts how much self-determination an individual might feel for those behaviours.
- Critically, where a given behaviour lies on this continuum can change over time or across situations.
- Western culture tends to promote autonomy and the individual, whereas Eastern cultures put more emphasis on meeting the needs of the community.
- **Module 11.4 Emotion:**
- Common convention in psychology is to define an **emotion** as being a behaviour with the following three components: (a) a subjective thought and/or experience with (b) accompanying patterns of neural activity and physical arousal and (c) an observable behavioural expression.
- **The Initial Response:**
- The human brain shows emotion-dependent responses within approximately 150 ms of seeing or hearing a potential threat.
- A critical brain area involved in this process is the **amygdala**, a group of nuclei in the medial portion of the temporal lobes in each hemisphere of the brain. The amygdala receives sensory input from the cortex, the outer part of your brain, approximately 200 ms after an emotional stimulus appears. The amygdala fires when we perceive stimuli that are emotionally arousing, and is especially sensitive to fear-relevant images and sounds.
- **The Autonomic Response, Fight or Flight:**
- An emotional response obviously involves more than simply perceiving a threat. We need to prepare our body to physically respond to the emotional stimulus, if necessary. Importantly, this preparation needs to occur instinctively and as rapidly as possible. The autonomic nervous system (ANS) specializes in such responses. The ANS consists of two systems:
    1. The sympathetic nervous system, which helps recruit energy to prepare you for a response.
    2. The parasympathetic nervous system, which helps preserve energy and calms you down if no response is necessary.
- **The Emotional Response Movement:**
- Research in the last couple of years has found that emotional stimuli, particularly threatening emotional stimuli, trigger an increase in activity in brain areas related to planning movements and in several regions of the spinal cord. This activity suggests that our nervous system is becoming prepared to make a movement if one is necessary. This

preparation likely increases the speed and efficiency of our emotional responses.

- **Emotional Regulation:**
- It makes sense from a survival standpoint to have rapid emotional responses and then to decide if the responses are correct or not. However, this evaluative stage of emotional responses is the most complex and involves a number of areas within our frontal lobes. The frontal lobes receive information directly from the amygdala and from sensory areas whose activity is influenced by the amygdala. As a result, the frontal lobes have access to highly detailed information about a stimulus or situation as well as information about the initial responses of other brain networks. The frontal lobes must determine whether the instinctive emotional responses produced by earlier stages of processing are the best ones for that given situation. In some cases, the frontal lobes will analyze the situation and agree that an emotional response is necessary. It will then generate a behaviour that is appropriate for that situation. In other cases, the frontal lobes will analyze the situation and decide that a stimulus is not emotional.
- **Experiencing Emotions:**
- The **James-Lange theory of emotion** suggests that our physiological reactions to stimuli precede the emotional experience. Furthermore, your emotional experience is determined by your physiological reactions.
- The **Cannon-Bard theory of emotion** suggested that the brain interprets a situation and generates subjective emotional feelings, and that these representations in the brain trigger responses in the body. This theory suggests that these emotional processes occur very quickly, so that the steps occur almost simultaneously.
- The **facial feedback hypothesis** suggests that our emotional expressions can influence our subjective emotional states.
- **Working the Scientific Literacy Model The Two-Factor Theory of Emotion:**
- The **two-factor theory** holds that patterns of physical arousal and the cognitive labels we attach to them form the basis of our emotional experiences. Physical arousal is the first factor to come into play and along with this comes a cognitive label for the experience.
- **Expressing Emotions:**
- A polygraph measures whether heart rate and sweating increase when a person responds to different events or questions. Sudden changes in these levels suggest that the person is experiencing stress and may be hiding something. However, after extensive testing, the polygraph was shown to be an inaccurate measure of lie detection.
- Psychologists have developed a new technique for lie detection. They found that our faces give us away when we try to lie. Although we can fake an emotional expression within a fraction of a second, our real emotional response can be seen on our faces before this mask is in place. These brief expressions of our true feelings are called microexpressions.
- Our primary method of communicating our emotional feelings is through our facial expressions. However, body language provides almost as much emotional information as facial expressions. It also activates a number of similar brain areas.
- **Culture, Emotion, and Display Rules:**
- Cultural groups have unique **emotional dialects** which are variations across cultures in how common emotions are expressed.
- The situation or context is a major factor in determining when members of different cultures express specific emotions. **Display rules** refer to the unwritten expectations we

have regarding when it is appropriate to show a certain emotion.

Definitions:

- **Achievement motivation:** The drive to perform at high levels and to accomplish significant goals.
- **Allostasis:** Motivation is not only influenced by current needs, but also by the anticipation of future needs.
- **Amotivational:** A feeling of having little or no motivation to perform a behaviour.
- **Amygdala:** A group of nuclei in the medial portion of the temporal lobes in each hemisphere of the brain that facilitates memory formation for emotional events, mediates fear responses, and appears to play a role in recognizing and interpreting emotional stimuli, including facial expressions.
- **Anorexia nervosa:** An eating disorder that involves self-starvation, intense fear of weight gain and dissatisfaction with one's body, and denial of the serious consequences of severely low weight.
- **Approach goal:** An enjoyable and pleasant incentive that a person is drawn toward, such as praise, financial reward, or a feeling of satisfaction.
- **Avoidance goal:** An attempt to avoid an unpleasant outcome such as shame, embarrassment, losing money, or feeling emotional pain.
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- **Cannon-Bard theory of emotion:** The brain interprets a situation and generates subjective emotional feelings, and these representations in the brain trigger responses in the body.
- **Companionate love:** Related to tenderness, and to the affection we feel when our lives are intertwined with another person.
- **Display rules:** The unwritten expectations we have regarding when it is appropriate to show a certain emotion.
- **Drive:** A biological trigger that tells us we may be deprived of something and causes us to seek out what is needed, such as food or water.
- **Emotion:** A behaviour with the following three components: (a) a subjective thought and/or experience with (b) accompanying patterns of neural activity and physical arousal and (c) an observable behavioural expression (e.g., an emotional facial expression or changes in muscle tension).
- **Emotional dialects:** Variations across cultures in how common emotions are expressed.
- **Extrinsic motivation/Performance motive:** Motivation geared toward gaining rewards or public recognition, or avoiding embarrassment.
- **Facial feedback hypothesis:** Our emotional expressions can influence our subjective emotional states.
- **Gender roles:** The accepted attitudes and behaviours of males and females in a given society.
- **Glucose:** A sugar that serves as a primary energy source for the brain and the rest of the body.
- **Homeostasis:** The body's physiological processes that allow it to maintain consistent internal states in response to the outer environment.
- **Hypothalamus:** A brain structure that regulates basic biological needs and motivational systems.

- **Incentives:** The stimuli we seek out in order to reduce drives.
- **Intrinsic motivation/Mastery motive:** The process of being internally motivated to perform behaviours and overcome challenges.
- **James-Lange theory of emotion:** Our physiological reactions to stimuli precede the emotional experience.
- **Libido:** The motivation for sexual activity and pleasure.
- **Motivation:** Concerns the physiological and psychological processes underlying the initiation of behaviours that direct organisms toward specific goals.
- **Need to belong:** The motivation to maintain relationships that involve pleasant feelings such as warmth, affection, appreciation, and mutual concern for each person's well-being.
- **Obesity:** A disorder of positive energy balance, in which energy intake exceeds energy expenditure.
- **Passionate love:** Associated with a physical and emotional longing for the other person.
- **Refractory period:** A brief period in which a neuron cannot fire or a time period during which erection and orgasm are not physically possible.
- **Satiation:** The point in a meal when we are no longer motivated to eat.
- **Self-determination theory:** An individual's ability to achieve their goals and attain psychological well-being is influenced by the degree to which he or she is in control of the behaviours necessary to achieve those goals.
- **Self-efficacy:** An individual's confidence that he or she can plan and execute a course of action in order to solve a problem.
- **Sex guilt:** Negative emotional feelings for having violated culturally accepted standards of appropriate sexual behaviour.
- **Sexual orientation:** The consistent preference for sexual relations with members of the opposite sex (heterosexuality), same sex (homosexuality), or either sex (bisexuality).
- **Sexual response cycle:** The phases of physiological change during sexual activity, which comprises four primary stages: excitement, plateau, orgasm, and resolution.
- **Sexual scripts:** The set of rules and assumptions about the sexual behaviours of males and females.
- **Terror management theory (TMT):** A psychological perspective asserting that the human fear of mortality motivates behaviour, particularly those that preserve self-esteem and our sense of belonging.
- **Testosterone:** A hormone that is involved in the development of sex characteristics and the motivation of sexual behaviour.
- **Transgender:** Individuals who experience a mismatch between the gender that they identify with and their biological sex.
- **Transsexual:** The subset of transgender individuals who wish to permanently transition from their birth sex to the gender with which they identify.
- **Trigger foods:** Affect the selection of healthy and unhealthy foods simply by being present among possible food alternatives.
- **Two-factor theory:** Patterns of physical arousal and the cognitive labels we attach to them form the basis of our emotional experiences.
- **Unit bias:** The tendency to assume that the unit of sale or portioning is an appropriate amount to consume.

Lecture Notes:

- **Personality** is an individual's characteristic style of:
  - Behaviour
  - Thought
  - Feeling
- Personality is relatively stable across time and situations.
- The study of personality is the study of both individual differences (**idiographic approach**) and common trends in the population (**nomothetic approach**).
- The study of personality has two components:
  1. Describing Personality:
     a. Asking "What are the characteristics of an individual's personality?"
     b. **Personality Inventory**, which is a self-assessment tool that career counselors and other career development professionals use to help people learn about their personality types. It reveals information about individuals' social traits, motivations, strengths and weaknesses, and attitudes.
  2. Explaining personality:
     a. Asking "Why does an individual have the personality that he does?"
     b. Asking "How does an individual's personality affect her behaviour?"
     c. Personality theories
- We can measure personality by observing the individual's behaviour. This is called a **naturalistic observation**. However, being watched can alter an individual's way of behaving. This is called **demand characteristics**. Furthermore, because there isn't a script or structure to follow, the observer can affect the observation.
- Personality measurements instead usually take one of two forms:
  1. Personality inventories:
     a. Also called personality tests/personality scales
  2. Projective techniques
- Personality inventories is one of the simplest ways to assess personality.
- Personality inventories rely on self-report. These are subjective descriptions of one's own behaviours, thoughts, and feelings and are usually administered in an interview or written questionnaire.
- The **Barnum effect** is when a user can see themself virtually in any description because they are so general.
- Most online personality tests have weaknesses in **validity** and **reliability**.
- **Reliability** deals with the consistency of the responses/results of a test. If a test has 100% reliability, then every time someone takes the test, he/she should have the same results each time.
  E.g. A blood test has 100% reliability. Each time someone takes it, they will get the same result.
- **Validity** deals if a test actually measuring what it's supposed to measure. A test has high validity if you use different ways of measuring the same item and the results stay the same.
- The **Minnesota Multiphasic Personality Inventory (MMPI)** is a widely reliable, clinically valid personality test.
- There are no scalar questions on the MMPI.
- Some of the best personality inventories use yes/no or true/false and can't answer questions because there are a lot of questions in general and a lot of questions that ask

the same thing. Furthermore, because there's a lot of questions, it fatigues the test-taker so they can't fake their responses and so that they will automatically answer the questions.

- Some criticisms of personality inventories are:
    - Test administrator can be biased. This is less of an issue with true/false or yes/no questions.
    - The test taker may not know everything about him/herself.
    - The test taker can be biased. Test takers often report socially desirable traits. The MMPI gets around this problem by using **validity scales**.
- **MMPI validity scales** are sets of questions that attempt to mitigate bias.
  E.g.
  The **F-scale** is an example of an MMPI validity scale. (High rates of "true" responses can indicate severe psychopathology or over-reporting) Designed to make sure that the user isn't just continuously answering True or Yes.
  The **Lie-scale** is an example of an MMPI validity scale. (High rates of "false" responses may indicate lying) Designed to make sure that the user isn't just continuously answering False or No.
  The **?-scale** is an example of an MMPI validity scale. (High rates of "I don't know" may indicate an invalid test) Designed to make sure that the user isn't just continuously answering I don't know.
- Aside from measuring personality, personality psychologists also attempt to describe and explain personality. We're going to cover five of them in this chapter:
    1. **Trait Approach:**
        a. The most influential theory and is used by most psychologists.
        b. Heavily focused on biology, while the other four are heavily focused on experience.
        c. The trait approach to personality attempts to describe personalities as a series of **traits**. A trait is a relatively stable disposition to behave in a particular and consistent way.
        d. There are an infinite number of traits, so a list of traits is endless. Researchers that adhere to the trait approach use **factor analysis** to reduce this list to the lowest possible set of traits. They do this by:
            - Having individuals rate themselves on hundreds of traits.
            - Traits that are highly correlated (both positively and negatively) are combined into **factors**.
            - Traits with no correlation to one another are considered parts of separate factors.
        e. Today, most researchers agree upon a **five-factor model of personality**. These **Big Five personality traits** are **openness**, **conscientiousness**, **agreeableness**, **extraversion** and **neuroticism**. You can use the acronym OCEAN to remember them. These factors are not correlated with each other.

Factor	Characteristics of High Scores	Characteristics of Low Scores
Openness	Creative, artistic, curious, imaginative, nonconforming	Conventional, down-to-earth
Conscientiousness	Ambitious, organized, responsible	Unreliable, lazy, casual
Extraversion	Talkative, optimistic, social, affectionate	Reserved, introverted
Agreeableness	Good-natured, trusting, supportive	Rude, uncooperative, hostile
Neuroticism	Worried, insecure, anxiety-prone	Tranquil, secure, emotionally stable

f. Personality traits are relatively stable and this stability increases across the lifespan; this is called **differential continuity** or **rank-order stability**. However, what change we do see in an individual tends to occur at a younger age.
g. **Mean-level change** is the changing of the mean levels of traits as a population. Typically, across the lifespan, our scores on each of the traits tend to increase. However, around middle-age, some traits, such as openness, will decrease.
h. **Intraindividual change**, while rare, can occur after life-changing experiences, including trauma. It is when there is a significant change in a person's personality.
i. While personality traits are relatively stable, personality states change across situations.
j. Genetics is the largest single factor of where these traits come from.
k. The Big Five traits have a **heritability factor** of between 0.35 and 0.49. Heritability factor is the degree to which genetics influence traits. A heritability factor of 0 means that genetics plays no role in a physical/psychological trait. A heritability factor of 1 means that genetics is completely responsible for a trait.

Trait Dimension	Heritability
Openness	0.45
Conscientiousness	0.38
Extraversion	0.49
Agreeableness	0.35
Neuroticism	0.41

l. Since traits are so informed by genetics, we begin showing evidence of our personalities in infancy. **Temperament** is an infant's characteristic activity level, mood, attention span, and distractibility. Infants' temperaments are predictive of their adult personalities.

m. Most research that has explored the Big Five has been conducted in **WEIRD**, Western, Educated, Industrialized, Rich, and Democratic, cultures.
n. The prevalence of personality traits does vary from culture to culture. So culture may play a role in determining an individual's personality.

2. Behaviourist approach:

a. **Behaviourism** is the notation that our behaviour is controlled by our past experiences, either by being rewarded for a certain action or by being punished for a certain action.
b. **Operant conditioning** is when animals repeat actions that they got rewarded for and they avoid doing actions that they got punished for.
c. Behaviourist personality theorists believe that the same principle applies to human personality.

3. Social-cognitive approach:

a. According to this belief, personality is how a person deals with the situations encountered in daily life. This includes how we construct situations in our own minds and how we respond to those situations.
b. This is distinct from the trait approach, in which people behave the same way across most situations. This difference is called the **person-situation controversy**. People's behaviour is highly **situation-dependent**, so the situation that a person is in will probably influence their behaviour more.
c. Social-cognitive theorists argue that we base our behaviour on **personal constructs**, which we use to make sense of our worlds. Personal constructs are mental representations that we use to interpret events. These constructs are based on our experiences and observations.
d. Another way that our personalities differ from one another is our **outcome expectancies**, which are defined as anticipated consequences (positive or negative) as a result of engaging in a behavior.

4. Psychodynamic approach:

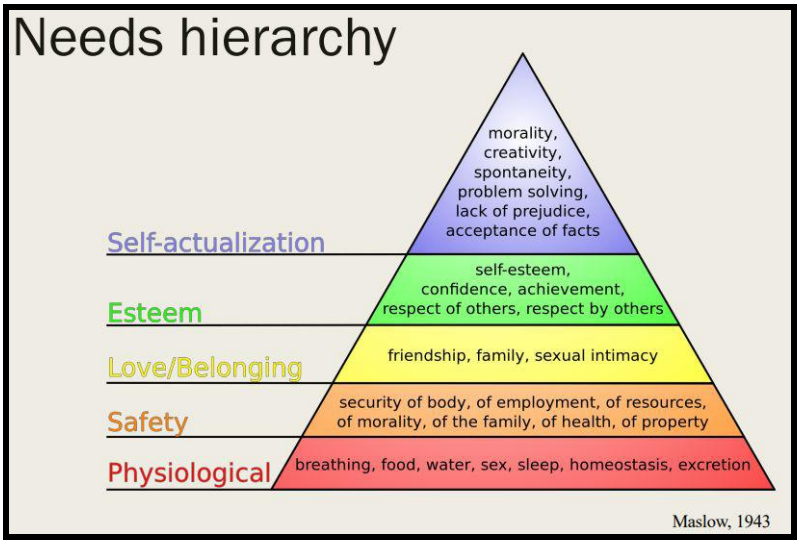
a. Divides up the conscientiousness into the **id**, the **ego** and the **superego**.
b. The id is the unconscious, animal desires.
c. The ego allows us to deal with life's practical demands.
d. The superego is the internalization of cultural/social rules.
e. Psychodynamic theory is the personality theory extending from Freud's psychoanalytic approach.
f. **Personality** is formed by needs, strivings, and desires largely operating outside of awareness, motives that can also produce emotional disorders.
g. Psychodynamic researchers call the mental processes that are outside our awareness the **dynamic unconscious**, which is an active system encompassing a lifetime of hidden memories, the person's deepest instincts and desires, and the person's inner struggle to control those forces.
h. Freud believed that our personality is determined by which of these three parts of the unconscious is dominant and he argued that conflicts between the three parts causes anxiety.
i. To resolve this anxiety, we rely on defence mechanisms.
j. Within the psychodynamic approach, another way to measure personality is with **projective techniques**, which are tests designed to reveal inner

aspects of individuals' personalities by analysis of their responses to a standard series of ambiguous stimuli. Here, pictures of people, objects, events or abstract stimuli are shown to subjects, who report what they see. The two most famous examples are the **Rorschach inkblot test** and the **Thematic apperception test (TAT)**.

k. The Rorschach inkblot test is a projective technique in which respondents' inner thoughts and feelings are believed to be revealed by analysis of their responses to a set of unstructured inkblots.
l. For TAT, patients are shown a card with an ambiguous scene and are asked to make up a story about this scene.
m. Some criticisms of projective techniques are that results are difficult to interpret and the interpretations are too subjective.
n. Some criticisms of the psychodynamic approach are that there is mixed empirical evidence to support them, it tends to focus on after-the-fact interpretation rather than testable prediction, it rejects free will, it is based on a biased sample and it is unfalsifiable.

5. Humanistic-existential approach:

a. Humanistic theories have positive, optimistic view of human nature, believe that humans have free will.
b. Free will separates the humanistic approach from the psychodynamic and the trait approaches.
c. The humanist approach argues that humans seek out a realization of their inner potential.



d. Humanists argue that our personality differences arise from environmental constraints against climbing our needs hierarchy.

Textbook Notes:

- **Module 12.1 Contemporary Approaches to Personality:**
- A person's **personality** is their characteristic pattern of thinking, feeling, and behaving that is unique to each individual, and remains relatively consistent over time and situations.
- **The Trait Perspective:**
- There are two broad approaches to personality measurement:

1. **idiographic approach**
2. **nomothetic approach**

- When you try to figure out the people you know very well, you probably intuitively adopt an **idiographic approach**, focusing on creating detailed descriptions of a specific person's unique personality characteristics.
- In contrast, psychologists who take a **nomothetic approach** examine personality in large groups of people, with the aim of making generalizations about personality structure.
- **Early Trait Research:**
- A **personality trait** describes a specific psychological characteristic that makes up part of a person's personality; how that person is "most of the time."
- The **Barnum effect/Forer effect** is a common psychological phenomenon whereby individuals give high accuracy ratings to descriptions of their personality that supposedly are tailored specifically to them, that are in fact vague and general enough to apply to a wide range of people.
- A statistical technique called **factor analysis** is used to group items that people respond to similarly, which are referred to as a factor.
- **The Five Factor Model:**
- Psychologists created the **Five Factor Model (FFM)**, a trait-based theory of personality based on the finding that personality can be described using five major dimensions. This model has become the most popular trait-based approach for academic personality researchers, and has been cited in hundreds of research articles.
- To understand the Big Five traits, consider what characteristics are associated with people high and low on that trait. These are the "kinds of people" described by each trait:
    1. **Openness:**
        a. Individuals high in openness are the dreamers and creative types. They tend to be more open to new things and perspectives that differ from theirs, and new ways of seeing a problem that they had not considered.
        b. Individuals low in openness are the defenders of the system, preferring the conventional, the tried and true.
    2. **Conscientiousness:**
        a. Highly conscientious people are efficient, self-disciplined, and dependable.
        b. Low Cs are the easy-going ones, fun to hang out with, but not so great as collaborators on a project.
    3. **Extraversion:**
        a. Extraverts are the socializers and sensation seekers. They are comfortable in more stimulating environments.
        b. Introverts are the quiet ones. Although they like social contact, introverts also need time for solitary activities.
    4. **Agreeableness:**
        a. Highly agreeable people are warm and friendly people who are easy to like, easy to be friends with, and easy to have as part of your group. They are kind, compassionate, and empathetic, and altruistic.
        b. Highly disagreeable people value being authentic more than pandering to other people's needs, making them more likely to assert their opinions and engage in conflict if necessary.
    5. **Neuroticism:**

a. People high in neuroticism are often difficult to deal with, as their emotional volatility and general tendency to experience negative emotions makes them not much fun to be around.
b. People low in neuroticism are mentally healthy people. They tend to be secure and confident, and let go of negative emotions easily.

- **Beyond the Big Five: The Personality of Evil?:**
- Following World War II, such questions were a major focus in personality psychology, as the world wanted to understand the rise of fascism and Hitler's ability to mobilize millions of people to carry out his plans of destruction. Early research suggested that a key personality type, the **authoritarian personality**, was a big piece of the puzzle. Authoritarians were theorized to be rigid and dogmatic in their thinking, to separate their social world into strict categories of Us and Them, and then to believe strongly in the superiority of "Us" and the inferiority of "Them". As a result, authoritarians were more likely to endorse and engage in prejudice and violence, particularly toward people in the "them" category. Although there is some overlap between this construct and other, related personality factors, over the past several decades, personality researchers have discovered important personality traits that extend the Five Factor Model and help to shed light on the problem of human "evil." Three lines of research are particularly important.
- **Honesty–Humility:**
- The **HEXACO model of personality** is a six-factor theory that generally replicates the five factors of the FFM and adds one additional factor: Honesty–Humility.
- Individuals scoring highly on this factor tend to be sincere, honest, and modest, whereas those with low scores are deceitful, greedy, and pompous.
- Thus, the HEXACO model seems to describe "evil" as heavily involving an excessive importance placed on the self, and none placed on the other.
- **The Dark Triad:**
- The **Dark Triad**, machiavellianism, psychopathy, and narcissism, describes a person who is socially destructive, aggressive, dishonest, and likely to commit harm in general.
- **Machiavellianism** is a tendency to use people and to be manipulative and deceitful, lacking respect for others and focusing predominantly on one's own self-interest. Relationships are approached strategically, using other people for how they might be able to provide some sort of benefit to the self.
- **Psychopathy** is a general tendency toward having shallow emotional responses. Individuals scoring high in psychopathy veer toward highly stimulating activities and tend to feel little empathy for others. They often get a thrill out of conflict, exerting control, or even harming others, and feel little remorse for their actions.
- **Narcissism** reflects an egotistical preoccupation with self-image and an excessive sense of self-importance. Narcissists can often be charming, but are difficult to have as relationship partners because they tend to always put themselves first rather than considering their partner's needs.
- **Right-Wing Authoritarianism:**
- **Right-Wing Authoritarianism (RWA)** is a problematic set of personality characteristics that also predisposes people to certain types of violent or anti-social tendencies. RWA involves three key tendencies:
    1. Obeying orders and deferring to the established authorities in a society;
    2. Supporting aggression against those who dissent or differ from the established social order; and

3. Believing strongly in maintaining the existing social order.

- At the centre of the RWA personality is a strong tendency to think in dogmatic terms.
- **Temperaments:**
- In child development studies, researchers have found that infants possess different temperaments right from birth, which also supports the view that the seeds of our personalities are present right from the start.
- Infant temperament can predict the adult personality traits of neuroticism, extraversion, and conscientiousness.
- **Is Personality Stable Over Time?:**
- While there are a number of factors, both behavioural and biological, that make personality stable over time, personality can change, particularly in late adolescence and early adulthood.
- **Personality Traits and States:**
- A **state** is a temporary physical or psychological engagement that influences behaviour.
- There are 4 general aspects of situations that are most likely to influence our behaviour:
    1. Locations (e.g., being at work, school, or home)
    2. Associations (e.g., being with friends, alone, or with family)
    3. Activities (e.g., awake, rushed, studying)
    4. Subjective states (e.g., mad, sick, drunk, happy)
- **The Behaviourist Perspective:**
- Behaviourists thought that what psychologists call personality was an expression of relationships between behaviour, rewards, and punishment.
- Behaviourists avoided referring to personality traits and dispositions, instead focusing on how past experiences predict future behaviours.
- **The Social-Cognitive Perspective:**
- Social-cognitive theorists placed central importance on the role of cognition and the person's inner subjective interpretation of their circumstances.
- According to the social-cognitive theory, personality develops out of the person's interaction with the environment, but where this differs from behaviourism is that the person ends up forming beliefs about their relationship to the environment, especially beliefs about their own actions and the likely consequences that will follow from their choices.
- **Reciprocal determinism** is the idea that behaviour, personal factors and external factors interact to determine one another and our personalities are based on interactions among these 3 aspects.
- **<u>Module 12.2 Cultural and Biological Approaches to Personality:</u>**
- **Universals and Differences Across Cultures: The Big Five:**
- The Five Factor Model of personality centres around five personality dimensions: neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness.
- **Personality Structures in Different Cultures:**
- Because the Five Factor Model was originally created by performing a factor analysis of the personality adjectives in the English language, the kinds of questions that are asked on Big Five questionnaires are designed to measure the Big Five factors, and no others. Thus, when the scale is given to people from other cultures, the scale itself brings the biases of Western culture and the English language right along with it.
- **Comparing Personality Traits Between Nations:**

- One important advantage of personality scales that have been translated into different languages is that psychologists can test for personality differences across cultures. One reason for the cultural differences found in personality studies are that people from different cultures have different **response styles**, characteristic ways of responding to questions, and these response styles can be strongly influenced by cultural norms.
- **How Genes Affect Personality:**
- Researchers often use twin studies to separate apart the contributions made by our genes and our environments. Comparing twins who were identical (monozygotic) to twins who were fraternal (dizygotic) allowed researchers to estimate the influence of genetic factors on personality.
- Research on the Big Five personality traits of twins has shown that identical twins show a stronger correlation for each personality trait than do fraternal twins. This implies that the increased similarity in the personalities of identical twins is due to their shared genes.
- Furthermore, research shows that identical twins raised in different households are about as similar to each other as identical twins raised in the same household. In fact, fraternal twins who are raised in the same home are actually more different from each other than identical twins who are raised in completely different families.
- In addition, research has also found that siblings who are adopted and raised in the same household are no more similar in personality than two people picked randomly off the street.
- **Working the Scientific Literacy Model: From Molecules to Personality:**
- Although scientists have not identified a specific gene or genes involved in the expression of specific personality factors, they have discovered genes that code for specific brain chemicals that are related to personality.
- Many of our genes are polymorphic, meaning that there are different versions of the same gene that lead to different physical or behavioural characteristics.
- To study genes and personality, one method is to compare responses on self-report questionnaires of people who have inherited different copies of a specific gene. Another method for studying genes and personality is to conduct experiments and compare the responses of people with different copies of a gene.
- **The Role of Evolution in Personality:**
- Evolutionary psychologists emphasize that our personality structures are built right into our species because they conferred selective advantages to humans possessing certain traits. But the human species is related to other species as well, and so one would expect that we may share at least some aspects of our personalities with other species.
- One compelling argument for the usefulness of the evolutionary perspective on personality is the presence of personality traits in numerous nonhuman species.
- **Why There are So Many Different Personalities: The Evolutionary Explanation:**
- Evolutionary perspectives can help us to understand why humans have evolved the particular personality traits that we have. To the extent that the Big Five traits are built right into our biology, these traits must have been selected for by being adaptive in past evolutionary epochs, helping to promote our survival and reproductive success.
- Individuals high in extraversion would be more likely to rise in social hierarchies, and play leadership and social networking roles in a community. However, extraverts tend to be risk takers and sensation seekers, and it would be desirable to offset these qualities with a healthy proportion of introverts in a group.
- People high in conscientiousness would be reliable and dependable, and others would learn to count on them to get things done, clearly desirable qualities in a mate. However,

the person low in conscientiousness may be an attractive partner to mate with for other reasons.

- People low in neuroticism don't crack under pressure, can keep a level head and could be counted on in crises. However, being high in neuroticism means that they would be more attuned to danger and act as a voice of caution to keep others from making dangerous decisions.
- People high in agreeableness would be the friends who are there for you when you need them, and they would generally help to promote harmony and solidarity as groups work together on larger projects; whereas those low in agreeableness may be useful for providing a critical perspective and ensuring that the group doesn't make rash decisions.
- People high in openness would be imaginative and creative, helping to build bridges between members of different subgroups in the community, and challenging ideas so that the community doesn't rigidify into dogma and closed-mindedness. On the other hand, those low in openness may be useful for preserving traditions and helping to identify a coherent sense of identity within the community.
- **Extraversion and Arousal:**
- Hans Eysenck proposed an **arousal theory of extraversion**, arguing that extraversion is determined by people's threshold for arousal.
- According to this theory, extraverts have a higher threshold for arousal than introverts. One brain system, the **ascending reticular activating system (ARAS)**, plays a central role in controlling this arousal response. Research on Eysenck's ideas has demonstrated that extraverts do have less reactive ARASs compared to introverts.
- Another influential model of the brain–personality relationship describes two major brain systems for processing rewards and punishments: the behavioural activation system and the behavioural inhibition system. The **behavioural activation system (BAS)** is a "GO" system, arousing the person to action in the pursuit of desired goals. This system is responsive to rewards and fairly unresponsive to possible negative consequences; greater BAS activation therefore is associated with greater positive emotional responses and approach motivation. The other system, the **behavioural inhibition system (BIS)**, is more of a "danger" system, motivating the person to action in order to avoid punishments or other negative outcomes. The BIS is therefore associated with greater negative emotional responses and avoidance motivation.
- Several of the Big Five factors are correlated with activation of the BIS/BAS systems. The most consistent finding is that extraversion is especially related to BAS activation, whereas neuroticism is related to BIS activation.
- **Contemporary Research: Images of Personality in the Brain:**
- Extraverts have a larger medial orbitofrontal cortex, and generally show less activation in the amygdala. The medial orbitofrontal cortex is involved in processing reward, which is consistent with extraverts' greater reward sensitivity. The amygdala is involved in processing novelty, danger, and fear, which extraverts tend to pay less attention to.
- Neuroticism is associated with a smaller dorsomedial prefrontal cortex, a smaller hippocampus, and a larger mid-cingulate gyrus. The dorsomedial prefrontal cortex is involved in controlling emotions, the hippocampus in controlling obsessive negative thinking, and the mid-cingulate gyrus in detecting errors and perceiving pain—whether physical or emotional pain. These are the kinds of processes that define highly neurotic people. They have difficulty controlling their emotions, often fall prey to obsessive negative thinking, and are highly sensitive when they make mistakes or feel pain.

- People high in agreeableness show less brain volume in an area called the left superior temporal sulcus, which is activated when one is interpreting another person's actions or intentions. They also show greater volume in an area called the posterior cingulate cortex, which is involved in empathy and perspective-taking. These brain areas match the tendency for people high in agreeableness to be more socially attuned and to have more empathy for others.
- People high in conscientiousness have a larger brain volume in the middle frontal gyrus in the left prefrontal cortex, which is involved in working memory processes and in carrying out actions that you have planned. These functions are implicated in effective self-control, which is a key strength of the highly conscientious person.
- Individuals high in openness to experience have been shown to have greater activation in the dorsolateral prefrontal cortex, which is involved in creativity and intelligence, as well as other brain systems involved in the integration of the self and the environment. These systems reflect the tendencies for people high in openness to be creative, integrative thinkers.

- **<u>Module 12.3 Psychodynamic and Humanistic Approaches to Personality:</u>**
- **Unconscious Processes and Psychodynamics:**
- Freud grounded his theories on a model of consciousness that distinguished between different levels of mental life, most importantly between the conscious mind and the unconscious.
- The **conscious mind** is your current awareness, containing everything you are aware of right now.
- The **unconscious mind** is a much more vast and powerful but inaccessible part of your consciousness, operating without your conscious endorsement or will to influence and guide your behaviours.
- The unconscious mind houses your full lifetime of memories and experiences, including those that you can no longer bring into conscious awareness, such as emotional patterns that were created in early childhood or even infancy. It also contains your preferences and desires, which can influence you in ways that may be obvious, or in ways so subtle that you are not even aware of them.
- **The Structure of Personality:**
- The **id** represents a collection of basic biological drives, including those directed toward sex and aggression. Freud believed the id was fuelled by an energy called libido. The id operates according to the pleasure principle, motivating people to seek out experiences that bring pleasure, with little regard for the appropriateness or consequences of their realization. Because the id represents our basic animal desires, it is present right from birth and is the predominant force controlling our actions in the earliest stages of our lives. The id gets us into trouble though, and increasingly so as we get older and society frowns on some of the unrestrained urges of our lusty animal selves. Because society imposes constraints on our behaviour, the id must be restrained from its animal nature; and that is where the ego and superego come into play.
- The **superego** is comprised of our values and moral standards. Our superego tells us what we ought to do, whereas the id tells us what our animal body wants to do.
- In between the id and the superego is the **ego**, the decision maker. The ego seeks to balance the two forces, operating according to what Freud called the reality principle. The id, ego, and superego are in constant tension, and it is this tension that gives rise to personality in two key ways.

- First, different people's personalities may reflect differences in the relative strengths of their id, ego, and superego. Each person's unique combination of biology (id), upbringing and sociocultural circumstances (superego), and their uniquely personal awareness and will (ego), ends up developing into their personality.
- The second key dynamic that generates much of personality is how one reacts to anxiety. Anxiety plays a huge role in psychodynamic thought, because anxiety is the experiential result of the tension between the id, ego, and superego. When these systems are out of balance, we experience the deprivation of one system as a kind of basic anxiety. According to Freud, the ego engages in anxiety-defence throughout the day.
- **Defence Mechanisms:**
- When the ego is unable to resolve the anxieties that plague it, it uses its **defence mechanisms**, unconscious strategies the ego uses to reduce or avoid anxiety.
- Below is a chart of some defence mechanisms the ego uses:

Defence Mechanism	**Definition**
Denial	Refusing to acknowledge unpleasant information, particularly about oneself.
Displacement	Transforming an unacceptable impulse into a less unacceptable or neutral behaviour.
Identification	Unconsciously assuming the characteristics of a more powerful person in order to reduce feelings of anxiety or negative feelings about the self.
Projection	Perceiving in other people the qualities that you don't want to admit to possessing yourself.
Rationalization	Attempting to hide one's true motives by providing what seems like a reasonable explanation for unacceptable feelings or behaviours.
Reaction Formation	Altering an impulse that one finds personally unacceptable into its opposite.

Repression	Keeping distressing information out of conscious awareness by burying it in the unconscious.
Sublimation	Transforming unacceptable impulses into socially acceptable or even pro-social alternatives.

- **Personality Development: the Psychosexual Stages:**
- Freud believed that the personality developed as the person learned to channel the energy of the libido into appropriate forms of self-expression. Thus, to Freud, development of the infant and child is ruled by the id, involving the young child struggling to contain and channel sexual urges and feelings. Freud highlighted specific developmental challenges that children faced at different points of their lives, developing a stage theory of psycho-sexual development that tracked the progression children went through as they matured through the various stages.

Stage	**Pleasure Focus**	**Key Dynamics**
Oral (0–18 months)	Actions of the mouth—sucking, chewing, swallowing	This stage is about the foundation of the ego. Fixation at this stage represents a basic lack of self-confidence and “ego-strength,” leaving the person more dependent on, and therefore vulnerable to external sources of support.
Anal (18–36 months)	Bowel elimination, control	This stage is about the development of a sense of control and competence. Fixation at this stage leads to an “anal retentive” or “anal expulsive” personality, manifesting either as an obsession with cleanliness, order, and control, or as a disorganized person.
Phallic (3–6 years)	Genitals	The key personality challenge is the Oedipus

		complex, through which a person further develops the superego due to the internalization of values from the parents. Fixation at this stage leads to problems with jealousy and obsessions with power and sex.
Latency (6 years until puberty)	External activities	Ideally, this stage is fairly conflict-free. People focus on developing themselves, discovering their interests through sports, arts, and general activities. Fixation at this stage was not considered to be a big concern.
Genital (puberty to adulthood)	Sexual activities with others	Ideally, this stage is also fairly conflict-free. People focus on fully and authentically engaging in the world, provided they are not fixated at earlier stages.

- **Fixation** involves becoming preoccupied with obtaining the pleasure associated with a particular stage as a result of not being able to adequately regulate themselves and satisfy their needs at that stage.
- **Exploring the Unconscious with Projective Tests:**
- One popular approach of developing more standardized techniques for probing the unconscious is to use **projective tests**, personality tests in which ambiguous images are presented to an individual to elicit responses that reflect unconscious desires or conflicts. They are called “projective” because the image can be interpreted in different ways, and the particular interpretation a person chooses is thought to be a projection of her unconscious.
- One of the most familiar projective tests is the **Rorschach inkblot test**, in which people are asked to describe what they see in an inkblot, and psychologists interpret this description using a standardized scoring and interpretation method. Another projective test is the **Thematic Apperception Test (TAT)**, which asks respondents to tell stories about ambiguous pictures involving various interpersonal situations.
- **Alternatives to the Psychodynamic Approach:**
- Carl Jung coined the term **analytical psychology**, which focuses on the role of unconscious archetypes in personality development. In contrast to the Freudian unconscious, Jung believed that there were two main types of the unconscious, a

personal unconscious, which is a vast repository of experiences and patterns absorbed during the person's life, and a **collective unconscious**, which is a separate, non-personal realm of the unconscious that holds the collective memories and mythologies of humankind, stretching deep into our ancestral past.

- Within analytical psychology, archetypes played a central role. **Archetypes** are images and symbols that reflect common patterns of experience across all cultures.
- **The Power of Social Factors:**
- Alfred Adler initially differentiated himself from Freud by arguing for the importance of social dynamics and conscious thoughts, as opposed to sexual and aggressive drives in the unconscious, as determinants of behaviour. He emphasized the **inferiority complex**, the struggle many people have with feelings of inferiority, which stem from experiences of helplessness and powerlessness during childhood.
- Adler described how people strive to compensate for their feelings of inferiority by trying to appear competent and overcompensate for inferior feelings by trying to be or appear superior to others.
- **Humanistic Perspectives:**
- Carl Rogers championed a **person-centred perspective**, founded on the assumption that people are basically good, and given the right environment their personality will develop fully and normally. Rogers believed that people possess immense inner resources for growth and resilience, and a desire for **self-actualization**, which is the drive to grow and fulfill one's potential.

Definitions:

- **Analytical psychology:** Focuses on the role of unconscious archetypes in personality development.
- **Archetypes:** Images and symbols that reflect common "truths" held across cultures, such as universal life experiences or types of people.
- **Arousal theory of extraversion:** Extraversion is determined by people's threshold for arousal.
- **Ascending reticular activating system (ARAS):** Plays a central role in controlling the arousal response.
- **Assortative mating:** Choosing sexual partners who are similar to the individual doing the searching
- **Behavioural activation system (BAS):** A "GO" system, arousing the person to action in the pursuit of desired goals.
- **Behavioural inhibition system (BIS)**: A "danger" system, motivating the person to action in order to avoid punishments or other negative outcomes.
- **Collective unconscious:** A separate, non-personal realm of the unconscious that holds the collective memories and mythologies of humankind, stretching deep into our ancestral past.
- **Conscious mind:** Your current awareness, containing everything you are aware of right now.
- **Dark Triad:** Three traits, Machiavellianism, Psychopathy, and Narcissism, that describes a person who is socially destructive, aggressive, dishonest, and likely to commit harm in general.
- **Defense mechanisms:** Unconscious strategies the ego uses to reduce or avoid anxiety.
- **Ego:** The decision maker, frequently under tension, trying to reconcile the opposing urges of the id and superego.

- **Factor Analysis:** A statistical technique that examines correlations between variables to find clusters of related variables, or “factors”.
- **Factor Analysis:** In personality analysis, grouping items that people respond to similarly; for instance, the terms friendly and warm.
- **Five Factor Model (FFM):** A trait-based theory of personality based on the finding that personality can be described using five major dimensions.
- **Fixation:** Becoming preoccupied with obtaining the pleasure associated with a particular Freudian stage as a result of not being able to adequately regulate oneself and satisfy needs at that stage.
- **HEXACO model of personality:** A six-factor theory that generally replicates the factors of the Five Factor Model and adds one additional factor: Honesty–Humility.
- **Humourism:** Explained both physical illnesses and disorders of personality as resulting from imbalances in key fluids in the body.
- **Id:** A collection of basic biological drives, including those directed toward sex and aggression.
- **Idiographic approach:** Creating detailed descriptions of a specific person’s unique personality characteristics.
- **Inferiority complex:** The struggle many people have with feelings of inferiority, which stem from experiences of helplessness and powerlessness during childhood.
- **Nomothetic approach:** Examines personality in large groups of people, with the aim of making generalizations about personality structure.
- **Person-centred perspective:** Founded on the assumption that people are basically good, and given the right environment their personality will develop fully and normally.
- **Personal unconscious:** A vast repository of experiences and patterns that are absorbed during the entire experiential unfolding of the person’s life.
- **Personality:** A characteristic pattern of thinking, feeling, and behaving that is unique to each individual, and remains relatively consistent over time and situations.
- **Personality trait:** A specific psychological characteristic that makes up part of a person’s personality.
- **Phrenology:** The theory that personality characteristics could be assessed by carefully measuring the outer skull.
- **Projective tests:** Personality tests in which ambiguous images are presented to an individual to elicit responses that reflect unconscious desires or conflicts.
- **Reciprocal determinism:** Behaviour, internal (personal) factors, and external (situational) factors interact to determine one another, and our personalities are based on interactions among these three aspects.
- **Response styles:** Characteristic ways of responding to questions.
- **Right-Wing Authoritarianism (RWA):** A problematic set of personality characteristics that also predisposes people to certain types of violent or anti-social tendencies:
    1. Obeying orders and deferring to the established authorities in a society.
    2. Supporting aggression against those who dissent or differ from the established social order.
    3. Believing strongly in maintaining the existing social order.
- **Rorschach inkblot test:** A test in which people are asked to describe what they see on an inkblot, and psychologists interpret this description using a standardized scoring and interpretation method.
- **Self-actualization:** The drive to grow and fulfill one's potential.

- **Serotonin transporter gene:** Gene that codes for proteins residing in the synapses between nerve cells that are responsible for moving serotonin back into cell membranes of recently fired nerve cells for reuse
- **State:** A temporary physical or psychological engagement that influences behaviour.
- **Superego:** Comprised of our values and moral standards.
- **Thematic Apperception Test:** A test in which respondents are asked to tell stories about ambiguous pictures involving various interpersonal situations.
- **Unconscious mind:** A vast and powerful but inaccessible part of your consciousness, operating without your conscious endorsement or will to influence and guide your behaviours.
- **WEIRD:** ("Western, educated, industrialized, rich, democratic") acronym coined by psychologists pointing out that major theories of psychology, including personality, are based on a very limited sample of humanity.

Lecture Notes:

- Humans are among the most social species on the planet.
- Humans are considered ultrasocial, along with ants, bees, termites and naked mole rats.
- Ultrasocial organisms form large societies, divide labour, and cooperate for mutual benefit.
- **Social psychology** is the study of the causes and consequences of being social.
- As an introduction to social psychology, we will focus on four main aspects of being social:
    1. Aggression
    2. Cooperation
    3. Altruism
    4. Reproduction
- **Aggression** is behaviour with the purpose of harming another. This aggression can be directed at a member of their own species or at a member of another species. Animals are aggressive for the same reason they are cooperative, aggression and cooperation both serve the same purpose: survival.
- One hypothesis for why humans and other animals aggress is the **frustration-aggression hypothesis**, which states that animals aggress when their desires are frustrated. E.g. Organism A frustrates Organism B's desire for food, so Organism B attacks Organism A.
- Some researchers argue that this hypothesis is too narrow. Humans sometimes aggress when they are feeling negative emotional states even if their desires aren't being frustrated.
- Although all humans aggress, some humans are more likely than others to do so. Some factors that make a human more likely to aggress include:
    1. Biological factors:
        a. Genetics
        b. Sex
        c. Testosterone levels
    2. Environmental factors:
        a. Culture
        b. Societal expectations
- The greatest predictors of an individual's level of aggression are immediate family members who are aggressive and the sex of the person. Men are significantly more aggressive than women. Testosterone appears to be implicated. Younger men with more testosterone = more aggressive and women with more testosterone = more aggressive.
- While testosterone does not directly cause aggression, testosterone does not appear to make people more aggressive across situations, it appears to decrease individuals' threat assessments. People with more testosterone are less afraid of retaliation.
- Although aggression is evolutionarily adaptive, it has decreased significantly in the last century. Aggression is not inevitable. Certain cultures are far more or less violent than others.
- **Cooperation** is behaviour by two or more individuals that leads to mutual benefit.
- We just cooperate all the time because it is risky and resources are scarce.
- Because cooperation is risky and resources can be scarce, we often choose to cooperate in groups. **Groups** are collections of people that have something in common that distinguishes them from others. We tend to have positive prejudices and exhibit positive discrimination toward members of our in-group.

- Group cognition is deeply engrained in human evolution. This is present in all non-human primates. Furthermore, it arises in early childhood. It can be elicited spontaneously and arbitrarily.
- Even young infants and children exhibit in-group and outgroup discrimination.
- We often have in-group or out-group beliefs that we are not even aware of. These are called beliefs **implicit biases** and these can affect our behaviours, cognitions, and emotions in subtle ways.
- One measure of implicit biases is called the **Implicit Association Test (IAT)**. It measures biases that we are unable to report ourselves. Note that these differ from biases that we are unwilling to report ourselves.
  I.e. The IAT measures biases that you don't even know that you have rather than biases you try to hide.
- While groups make cooperation less risky, so we prefer to cooperate in groups, groups also have their own risks to decision making.
- **Group polarization** is when groups can sometimes make decisions that are more extreme than any member would have made alone.
- **Deindividuation** is when immersion in a group can cause people to become less concerned with their personal values.
- **Groupthink** is when groups can sometimes reach consensus too easily.
- **Diffusion of responsibility** is when individuals feel diminished responsibility for their actions when surrounded by others acting the same way. The **bystander effect** is an example of the diffusion of responsibility.
- **Common knowledge effect** is when group discussions sometimes revolve around information that everyone shares.
- Cooperation helps us to acquire and protect our resources, so it is adaptive for our survival.
- **Altruism** is behaviour that benefits another without benefiting oneself. In evolutionary terms, altruism is defined as a behaviour that reduces my fitness to increase the fitness of another individual.
  I.e. I'm reducing my ability to survive and reproduce to increase someone else's ability to survive and reproduce.
- "Altruism" looks like this in other non-human animals:
  - **Kinship selection:** Extending "altruistic" behaviour to related individuals, thus increasing the likelihood that one's genetic material will be passed on.
  - **Reciprocation:** Extending "altruistic" behaviour with the expectation that the favour will be returned.

  Note: Neither are actually/truly altruistic.
- If humans are truly altruistic, we may be alone in the animal kingdom in exhibiting altruism.
- We may or may not be altruistic, but we are certainly friendly to each other when it comes time to reproduce. **Reproduction** is one way in which almost all animals are social. Humans are especially social in this regard.
- There are three aspects of reproduction that we'll cover: **Selectivity, Attraction and Relationships**.
- Humans are quite selective in terms of their sexual partners. Women tend to be more selective than men because of biological reasons, opportunity cost and societal pressure. Some biological reasons are that females have a limited supply of eggs while males have an unlimited supply of sperm and the physical requirements and changes of

pregnancy. For opportunity cost, men can keep reproducing constantly while women can only reproduce approximately once a year. For societal pressure, there are reputational costs of promiscuity. Furthermore, women are approached more often than men are. Cultural courtship rituals can affect this selectivity.

- We choose potential sexual partners based on a number of factors that can be broken down into three categories: **Physical, Situational and Psychological**.
- One of the first things we notice about a social partner (sexual or otherwise) is their **physical appearance**. This factor is also the most powerful, at first. Beauty is universally beneficial but beauty is not universal. Being beautiful carries benefits in all cultures but not all cultures define beauty in the same ways.
  For example: some cultures value overweight partners over normal-weight partners.
- Physical attraction is often the first thing that we notice, but other factors play a role as well. Perhaps the greatest factor in our attraction to each other is simply **situational**. We try hard to like the people that we are around, because we have to live with them.
- The **mere exposure effect** is the tendency for humans to become more attracted to each other with repeated exposure.
  I.e. Simply spending time with someone may make you more attracted to him/her.
  This is especially true if we spend time together in psychologically arousing situations.
- In addition to physical and situational factors, **psychological** attraction is also important. We are more attracted to people who are similar to ourselves because:
  1. It is easy to interact with people who are similar.
  2. Interacting with similar people makes us feel confident that we are right.
  3. People who are more similar to us also like us more.
- One aspect of social psychology that we all engage in is the attempt to control other individuals. We call this control **social influence**. We are all susceptible to social influence and there are motivations for this susceptibility: **The hedonic motivation and The approval motivation**.
- The **hedonic principle** states that “All motivation is basically rooted in approach to pleasure and avoidance of pain”.
  I.e. The greatest motivation that humans and many animals have is attraction to pleasure and aversion to pain.
- Appealing to the hedonic principle is one of the most powerful ways to control others. However, appealing to the hedonic principle with rewards can backfire sometimes.
- Another powerful mechanism to control other individuals is to appeal to their desire for **approval**. We are motivated to have others like us and approve of us.
- One way in which approval motivates our actions is by our adherence to **norms**. We obey these norms religiously because they make us more likeable. This is called **normative influence**.
- The normative influence often causes us to conform to the behaviour of others.
  I.e. Simply doing what someone else is doing because (s)he is doing it.
  A famous example of this is **Asch’s conformity study**.

Textbook Notes:

- **Module 13.1 The Power of the Situation Social Influences on Behaviour:**
- **Mimicry and Social Norms:**
- Although we are often unaware of it, we tend to engage in **mimicry**, taking on for ourselves the behaviours, emotional displays, and facial expressions of others.
- The **chameleon effect** describes how people mimic others non-consciously, automatically copying others’ behaviours even without realizing it. You tend to laugh and

smile when others are laughing and smiling. More generally, you make the same emotional expressions on your face as those you see on the faces around you, and then pick up their moods as well.

- This kind of subtly attuned mimicry is highly functional, much of the time serving as a "social glue," helping to coordinate behaviours in social settings, helping people to feel reassured and validated by each other, sending the unconsciously processed message to others that you are kind of like them, and more so, that you are paying attention to them in that moment. Humans are a social species, and coordinating our behaviour with others is a key part of learning to function in the social world.
- Given that mimicry is so implicit and deeply ingrained, it would make sense to expect that we humans would find it awfully difficult to resist being influenced by each other. In many different situations, we tend to conform to the **social norms** that are evident. Social norms are the guidelines for how to behave in social contexts. Norms influence everything from our manners, to the amount of alcohol we drink, food we eat, clothes we wear, and even the beliefs and attitudes we express. Social norms govern much of our behaviour, even though people often fail to realize this and instead believe that their behaviour is freely chosen.
- **Group Dynamics Social Loafing and Social Facilitation:**
- Groups sometimes produce poorer outcomes due to **social loafing**, which occurs when an individual puts less effort into working on a task with others.
- There are various phrases for describing this, coasting, slacking, free-riding. Social loafing can occur in all sorts of tasks, including physical activities, cognitive activities, and creativity, and across all types of groups, regardless of age, gender, or nationality.
- One reason why people loaf is because they think others in the group are also not doing their best, setting up an apparent social norm that "people in this group don't work very hard." There are two likely outcomes of social loafing. Either the group performs quite poorly, or a small number of people end up saving the group by doing everything themselves.
- Here are some factors that encourage loafing:
    - **Low efficacy beliefs.** This occurs if tasks are too difficult or complex, so people don't know where to start. Structure tasks so people know exactly what to do, provide clear deadlines, and give people feedback so they know how well they are doing and how they can improve.
    - **Believing that one's contributions are not important to the group.** This occurs if people can't see how their own input matters to the group. Overcome this by helping people understand how group members rely on and affect each other, and assigning tasks to people that they feel are significant or they've had some say in choosing.
    - **Not caring about the group's outcome.** This occurs when a person is not personally identified with the group, perhaps feeling socially rejected from the group or perceiving the group as unsuccessful or unimportant. Overcome this by making the group's goals and values clear and explicit, encouraging friendships to form and group activities to be fun and socially rewarding.
    - **Feeling like others are not trying very hard.** As discussed earlier, people loaf if they feel others are loafing. Overcome this by providing feedback about the progress of group members on their individual tasks; strong groups often have regular meetings where people's progress is discussed and, ideally, celebrated.

- In contrast to social loafing, **social facilitation** occurs when one's performance is affected by the presence of others.
- There are many different mechanisms that explain the social facilitation effect. One of the most important is that the presence of others is emotionally arousing, and arousal tends to strengthen our dominant responses. When the task is simple, our dominant responses are the right ones, but when the task is very complex, we need to be able to control our responses more carefully, and then arousal decreases performance. Thus, the effects of arousal due to social facilitation depend on one's skills and the difficulty of the task; the greater the skills and the simpler the tasks, the more likely the presence of others will enhance performance. For true masters of a skill, audiences and competitors generally enhance performance, but novices tend to perform best in practice sessions when nobody's watching.
- **Groupthink:**
- In the same way that feeling evaluated tends to limit one's full abilities, the pressures that build within groups also often limit creativity, leading people to hold back their ideas. **Groupthink** refers to this stifling of diversity that occurs when individuals are not able to express their true perspectives, instead having to focus more on maintaining harmony in the group and on not being evaluated negatively.
- **The Asch Experiments, Conformity:**
- Groupthink can occur easily without a strong leader simply because of conformity pressures that arise spontaneously in groups.
- There are two main types of social influence.
    1. **Normative influence** is the result of social pressure to adopt a group's perspective in order to be accepted, rather than rejected, by the group.
    2. **Informational influence** occurs when people feel the group is giving them useful information.
- **The Bystander Effect, Situational Influences on Helping Behaviour:**
- The **bystander effect** describes the counterintuitive finding that the presence of other people actually reduces the likelihood of helping behaviour. This is counterintuitive because, usually, one would assume that if there is a certain chance of one person doing something, like helping, then the more people that are around, the greater the cumulative chance should be that someone will help. However, it seems in many cases that as the number of people in a situation increases, helping rates actually decrease.
- The first explanation offered for the bystander effect is the **diffusion of responsibility**, which is the reduced personal responsibility that a person feels when more people are present in a situation.
- The second explanation offered for the bystander effect is that there is often a mismatch between the public behaviour that people display and the private beliefs or thoughts the people may be having. As a result, the social norms operating in the situation may be quite different from the actual beliefs held by the people themselves; this is called **pluralistic ignorance**.
- **Social Roles and Obedience:**
- In contrast to social norms, which are general rules that apply to members of a group, **social roles** are more specific sets of expectations for how someone in a specific position should behave.

- **<u>Module 13.2 Social Cognition:</u>**
- **Explicit processes**, which correspond roughly to conscious thought, are deliberative, effortful, relatively slow, and generally under our intentional control. This explicit level of consciousness is our subjective inner awareness, our mind as we know it.
- **Implicit processes** comprise of our unconscious thought. They are intuitive, automatic, effortless, very fast, and operate largely outside of our intentional control. The implicit level of consciousness is the larger set of patterns that govern how our mind generally functions—all the "lower-level" processes that comprise the vast bulk of what our brains actually do.
- These two sets of processes work together to regulate our bodies, continually update our perceptions, infuse emotional evaluations and layers of personal meaning to our experiences, and affect how we think, make decisions, and self-reflect. Furthermore, they also can influence each other.
- In social-cognitive psychology, models of behaviour that account for both implicit and explicit processes are called **dual-process models**.
- **Person Perception:**
- The effects of implicit processes are dramatically illustrated by research on **person perception**, the processes by which individuals categorize and form judgments about other people.
- Person perception begins the instant we encounter another person, guided by our past experiences with people and the interpersonal knowledge we have absorbed from our culture. When we make a first impression of someone, we rely heavily on implicit processes, using whatever schemas we may have available. Schemas are organized clusters of knowledge, beliefs, and expectations about individuals and groups, which influence our attention and perceptual processes in many ways.
- **Thin Slices of Behaviour:**
- One amazing aspect of these implicit processes is just how accurate and practically instantaneous they can be. What happens in these situations is that we make very rapid, implicit judgments based on **thin slices of behaviour**, very small samples of a person's behaviour. In even a few seconds, our implicit processes, guiding our perceptions holistically and using well-practised heuristics, are able to perceive very small cues and subtle patterns. This gives us instantaneous, intuitive accuracy, at least in part. Many of our social judgments are made in this way, instantaneously, based on very little information.
- **Self-Fulfilling Prophecies and Other Consequences of First Impressions:**
- First impressions have a big impact on many of our social behaviours. Even very simple cues, such as facial appearance, guide a wide range of behaviours, from how a jury treats a defendant to how people vote.
- The fact that our implicit judgments can influence our perceptions and behaviours has countless implications for our social lives, particularly in terms of **self-fulfilling prophecies**, which occur when a first impression (or an expectation) affects one's behaviour, and then that affects other people's behaviour, leading one to "confirm" the initial impression or expectation.
- **Projecting the Self Onto Others, False Consensus and Naive Realism:**
- One way in which our self-concept affects our social perceptions is that we tend to project our self-concepts onto the social world. This means that the qualities we see in ourselves and the attitudes and opinions that we hold, we tend to assume are similar for society at large.

- This tendency to project the self-concept onto the social world is known as the **false consensus effect**. It's important to understand that this is a pretty sensible way to be, much of the time.
- We also generally assume that our perceptions of reality are accurate, that we see things the way they are. This is called **naive realism**.
- **Self-Serving Biases and Attributions:**
- This tendency toward naive realism reflects a larger, more general need to want to feel positively about ourselves, to have a positive sense of self-evaluation or self-esteem.
- We strive to maintain our positive self-feelings through a host of **self-serving biases**, which are biased ways of processing self-relevant information to enhance our positive self-evaluation.
- One of the sneaky outgrowths of these self-serving biases and motivations is that for many of the qualities and skills that are important to us, we assume that we are better than average. This rather appropriately named **better than average effect** has been shown in many different domains.
- These same self-serving processes also influence the way we explain or interpret people's behaviour. Much in the same way that first impressions are formed implicitly, our explanations for behaviours tend to start out as automatic and seemingly intuitive. **Internal attribution/dispositional attribution** is when the observer explains the behaviour of the actor in terms of some innate quality of that person.
- **External attributions/situational attributions** is when the observer explains the actor's behaviour as the result of the situation. Generally, these external attributions are not what first come to mind. Rather, we come to them after thinking about it for a bit, and realizing that maybe there were other factors causing the person's behaviour that we didn't initially consider.
- This tendency to over-emphasize internal attributions and under-emphasize external factors when explaining other people's behaviour is known as the **fundamental attribution error (FAE)**.
- When we explain our own behaviours, we tend to emphasize whichever kind of explanation paints us in the best light. For our negative behaviours, the mistakes we make and embarrassing things we do, our attributions are much more generous. We emphasize the situational factors that cause us to do undesirable things. This obviously protects us from having to feel incompetent or foolish. However, it also might prevent us from taking responsibility for negative behaviours sometimes.
- When our behaviours are desirable, self-serving biases work in the opposite direction; we take as much credit as we can for our successes.
- **Ingroups and Outgroups:**
- Although this desire to feel good about ourselves seems functional and healthy, it often has negative side effects. Our self-serving processes also reinforce a tendency to be biased against others. We are motivated to be biased against others because one of the key ways we maintain positive feelings about ourselves is through our identification with larger social groups, and we can therefore make ourselves feel good by feeling positively towards these groups. In turn, one way to feel positively about our own group is to focus on how much better we are than other groups we compare ourselves to. Groups we feel positively toward and identify with are our **ingroups**, including our family, home team, and co-workers. **Outgroups** are those other groups that we don't identify with. In fact, we actively dis-identify with outgroups.

- This where our self-serving biases can be so destructive. As positive biases toward the self get extended to include one's ingroups, people become motivated to see their ingroups as superior to their outgroups, engaging in **ingroup bias** and potentially, outgroup derogation.
- **Stereotypes, Prejudice, and Discrimination:**
- From a social-cognitive perspective, a **stereotype** is a cognitive structure, a set of beliefs about the characteristics that are held by members of a specific social group; these beliefs function as schemas, serving to guide how we process information about our social world. Based on stereotypical beliefs, **prejudice** is an affective, emotionally laden response to members of outgroups, including holding negative attitudes and making critical judgments of other groups. Stereotyping and prejudice lead to **discrimination**, behaviour that disfavours or disadvantages members of a certain social group. Taken together, stereotyping, prejudice, and discrimination underlie many of the destructive "isms" in society, racism, sexism, and classism, among others.
- One way science can study implicit prejudice is through an **Implicit Associations Test (IAT)**. The IAT measures how fast people can respond to images or words flashed on a computer screen.
- **Improving Intergroup Relations:**
- One of the most well-supported ideas in all of social psychology is the **contact hypothesis**, which predicts that social contact between members of different groups is extremely important to overcoming prejudice, especially if that contact occurs in settings in which the groups have equal status and power, and ideally, in which group members are cooperating on tasks or pursuing common goals.
- Negative stereotypes and the attendant prejudices thrive under conditions of ignorance, whereas allowing people to get to know members of outgroups, to work together to pursue common goals, to come to appreciate their membership in common groups or as part of the same ingroup and to develop friendships with members of outgroups are all different ways in which contact helps to overcome prejudice. In fact, contact between members of different groups not only helps to combat their own prejudices, but that of their friends as well. Simply knowing that someone is friends with an outgroup member serves to decrease the prejudice of that person's friends.
- **<u>Module 13.3 Attitudes, Behaviour, and Effective Communication:</u>**
- **Changing People's Behaviour:**
- Four of the most common approaches taken to attempt to change the public's behaviour on a large scale are technological, legal, economic, and social.
- The technological approach focuses on making desired behaviours easier and undesired behaviours more difficult.
- The legal approach focuses on policy change, using laws to encourage positive behaviours and discourage negative behaviours.
- The economic approach focuses on financial incentives and penalties, generally through taxes and pricing.
- The social approach focuses on using information and communication to raise awareness, educate people, and create positive community organizations to encourage the desired behaviours.
- **Persuasion: Changing Attitudes Through Communication:**
- If you are preparing a persuasive message, understanding what is likely to connect with and have an impact on your audience is extremely important. These factors are explored by the **elaboration likelihood model (ELM)** of persuasive communication. The ELM

predicts that when audiences are sufficiently motivated to pay attention to a message and they have the opportunity for careful processing, they will be persuaded by the facts of the argument. When either of these two factors, motivation and opportunity, are missing, people will tend to be persuaded by other factors. According to this model of persuasion, information can appeal to people through two general routes: the central route and the peripheral route.

- The **central route to persuasion** is all about substance. It occurs when people pay close attention to the content of a message, evaluate the evidence presented, and examine the logic of the arguments. If the message is sufficiently compelling, they will be convinced, internalizing the message as something they believe in. As a result, attitude or belief change that occurs through the central route tends to be strong and long-lasting.
- However, much of the time, people are not going to pay sufficient attention to the content of a message, and instead, persuasion will depend upon other features that are not directly related to the message itself. When taking the **peripheral route to persuasion** it's all about style, not substance.
- Although persuasion is typically not as powerful through the peripheral route, it is nevertheless often a superior route through which to reach people, in part because it's so much easier. Even though people may not be paying much attention or may not really care about your issue, they can be persuaded if you can skillfully wield peripheral tools. Peripheral tools are quite dangerous, as a result, because they can make even relatively weak arguments potentially have an impact on people, whereas relatively strong and important arguments, if they are packaged in a more boring, less peripherally appealing way, can be overlooked.
- **Using the Central Route Effectively:**
- In order to use the central route effectively, you need to be confident that you have the facts on your side. If you feel your perspective makes logical, rational sense, then it makes sense to appeal to the central route. This means getting your audience to pay close attention to your arguments. In order to do that, you have two key factors to work with: motivation and opportunity. People will be more likely to process information through the central route when they are highly motivated and when they have the knowledge or expertise to understand the information. Thus, the central route is most reliable when people are highly motivated about the topic, when they have sufficient time and freedom from distraction, and when the information is not overwhelmingly complex relative to their knowledge.
- **Make It Personal:**
- The **construal-level theory** describes how information affects us differently depending on our psychological distance from the information.
- Information that is specific, personal, and described in terms of concrete details feels more personal, or closer to us whereas information that is more general, impersonal, and described in more abstract terms feels less personal, or more distant.
- Communicators should be able to make their messages feel more personally relevant to the audience by working with these factors, bringing the message close to home in time and space, showing how it affects the audience themselves or their social groups, and making consequences or outcomes as certain as possible.

- **Working the Scientific Literacy Model The Identifiable Victim Effect:**
- The **identifiable victim effect** describes how people are more powerfully moved to action by the story of a single suffering person than by information about a whole group of people.
- The **experiential system** operates more implicitly, quickly, and intuitively and is predominantly emotional. This system responds strongly to personal experiences, images, stories, and other people's emotions.
- In contrast, the **analytic system** operates more at the explicit level of consciousness, is slower and more methodical, and uses logic and discursive thinking to try to understand reality. The analytic system specializes in understanding, whereas the experiential system specializes in intuition and feeling.
- **Preaching or Flip-Flopping? One-Sided vs. Two-Sided Messages:**
- One potential downside to taking a straightforward values approach is that you might sound "preachy." On the other hand, if you don't make your own position clear and advocate clearly for your values, people may think you are a "flip flopper" who doesn't stand for anything in particular, or they may just get confused while you describe all aspects of an argument, and stop paying attention.
- It is actually more persuasive if you acknowledge opposing arguments than if you just preach from your own soap-box, unless your audience is unlikely to ever hear information that counters your message. By giving a two-sided message, you make it more likely that your audience will see you as trustworthy and honest. But you gain in another sneakier way as well. By bringing up, and shooting down, opposing arguments, you help your audience resist those arguments in the future. This is called **attitude inoculation**, a strategy for strengthening attitudes and making them more resistant to change by first exposing people to a weak counter-argument and then refuting that argument.
- **Emotions in the Central Route:**
- **Processing fluency**, the ease with which information is processed, biases the person's processing of the information. Thus, even insignificant aspects of a communication can, through triggering negative affect, influence the communication's persuasive impact.
- Another key factor that can easily derail communication is the message's complexity. If your arguments are overly technical, complex, or convoluted, or use specialized language, this can also activate negative emotion for people and bias them against your message. Also, people will simply lose interest in a message they don't understand and stop paying attention.
- To be an effective communicator, you can't ignore the peripheral route.
- We believe people we like. Communicators who connect with their audience get their message across more effectively.
- **Reciprocity:**
- Reciprocity is often used in a two-step manner called the **door-in-the-face technique**, which involves asking for something relatively big, then following with a request for something relatively small. The logic is that once someone has scaled back their request, you are obligated to meet them part way.
- **Consistency:**
- One of the most powerful influence techniques, especially for long-term behaviour change, is an old salesperson's trick called the **foot-in-the-door technique**, which involves making a simple request followed by a more substantial request.

- **Cognitive Dissonance:**
- The **cognitive dissonance theory** describes that when we hold inconsistent beliefs, this creates a kind of aversive inner tension, or “dissonance”. We are then motivated to reduce this tension in whatever way we can, often by simply changing the beliefs that created the dissonance in the first place.
- **Attitudes and Actions:**
- If attitudes influence behaviours, and behaviours influence attitudes, then you can see that the two are connected to each other in a circular fashion, with each affecting the other in a self-reinforcing cycle. Because each process affects the other, what happens in these causal loops is that initially small changes can grow into very large changes over time.

Definitions:

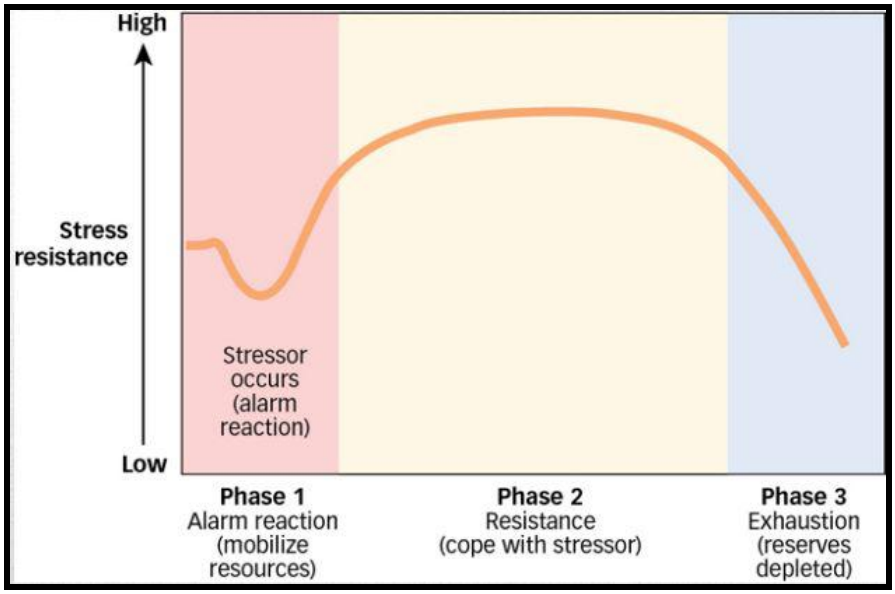
- **Analytic system:** Operates at the explicit level of consciousness, is slower and methodical, and uses logic and discursive thinking (i.e., reasoning using language).
- **Attitude inoculation:** A strategy for strengthening attitudes and making them more resistant to change by first exposing people to a weak counter-argument and then refuting that argument.
- **Bystander effect:** The presence of other people actually reduces the likelihood of helping behaviour.
- **Central route to persuasion:** Occurs when people pay close attention to the content of a message, evaluate the evidence presented, and examine the logic of the arguments.
- **Chameleon effect:** People copy others’ behaviours even without realizing it.
- **Cognitive dissonance theory:** When we hold inconsistent beliefs, it creates a kind of aversive inner tension, or “dissonance”. We are then motivated to reduce this tension in whatever way we can.
- **Construal-level theory:** Describes how information affects us differently depending on our psychological distance from the information.
- **Contact hypothesis:** Social contact between members of different groups is extremely important to overcoming prejudice.
- **Diffusion of responsibility:** The responsibility for taking action is spread across more than one person, thus making no single individual feel personally responsible.
- **Discrimination:** Occurs when an operant response is made to one stimulus but not to another, even if the stimuli are similar.
- **Discrimination:** Behaviour that disfavours or disadvantages members of a certain social group in some way.
- **Door-in-the-face technique:** Involves asking for something relatively big, then following with a request for something relatively small.
- **Dual-process models:** Models of behaviour that account for both implicit and explicit processes.
- **Elaboration likelihood model (ELM):** A model of persuasion that states when audiences are sufficiently motivated to pay attention to a message (i.e., they care about the issue) and they have the opportunity for careful processing (i.e., they have the cognitive resources available to understand the message), they will be persuaded by the facts of the argument, the substance; when either of these two factors (motivation and opportunity) is missing, people will tend to be persuaded by other factors.
- **Experiential system:** Operates implicitly, quickly, and intuitively and is predominantly emotional.

- **Explicit processes:** Correspond to “conscious” thought: deliberative, effortful, relatively slow, and generally under our intentional control.
- **External attribution/Situational attribution:** The observer explains the actor’s behaviour as the result of the situation.
- **False consensus effect:** Tendency to project the self-concept onto the social world.
- **Foot-in-the-door technique:** Involves making a simple request followed by a more substantial request.
- **Fundamental attribution error (FAE):** The tendency to overemphasize internal (dispositional) attributions and under-emphasize external (situational) factors when explaining other people’s behaviour.
- **Groupthink:** The stifling of diversity that occurs when individuals are not able to express their true perspectives, instead having to focus more on maintaining harmony in the group and on not being evaluated negatively.
- **Identifiable victim effect:** People are more powerfully moved to action by the story of a single suffering person than by information about a whole group of people.
- **Implicit Associations Test (IAT):** Measures how fast people can respond to images or words flashed on a computer screen.
- **Implicit processes:** Correspond to “unconscious” thought: intuitive, automatic, effortless, very fast, and operate largely outside of our intentional control.
- **Informational influence:** Occurs when people internalize the values and beliefs of the group, coming to believe the same things and feel the same ways themselves.
- **Ingroups:** Groups we feel positively toward and identify with.
- **Ingroup bias:** Positive biases toward the self get extended to include one’s ingroups and people become motivated to see their ingroups as superior to their outgroups.
- **Internal attribution/Dispositional attribution:** The observer explains the behaviour of the actor in terms of some innate quality of that person.
- **Mimicry:** Taking on for ourselves the behaviours, emotional displays, and facial expressions of others.
- **Naive realism:** The assumption that the way we see things is the way that they are.
- **Normative influence:** A social pressure to adopt a group’s perspective in order to be accepted, rather than rejected, by a group.
- **Outgroups:** Those “other” groups that we don’t identify with.
- **Peripheral route to persuasion:** Depends upon features that are not directly related to the message itself, such as the attractiveness of the person delivering the information.
- **Person perception:** The processes by which individuals categorize and form judgments about other people.
- **Pluralistic ignorance:** Occurs when there is a disjunction between the private beliefs of individuals and the public behaviour they display to others.
- **Prejudice:** Affective, emotionally laden responses to members of outgroups, including holding negative attitudes and making critical judgments of other groups.
- **Processing fluency:** The ease with which information is processed.
- **Self-fulfilling prophecy:** A first impression (or an expectation) affects one’s behaviour, and then that affects other people’s behaviour, leading one to “confirm” the initial impression or expectation.
- **Self-serving biases:** Biased ways of processing self-relevant information to enhance our positive self-evaluation.
- **Social facilitation:** Occurs when one’s performance is affected by the presence of others.

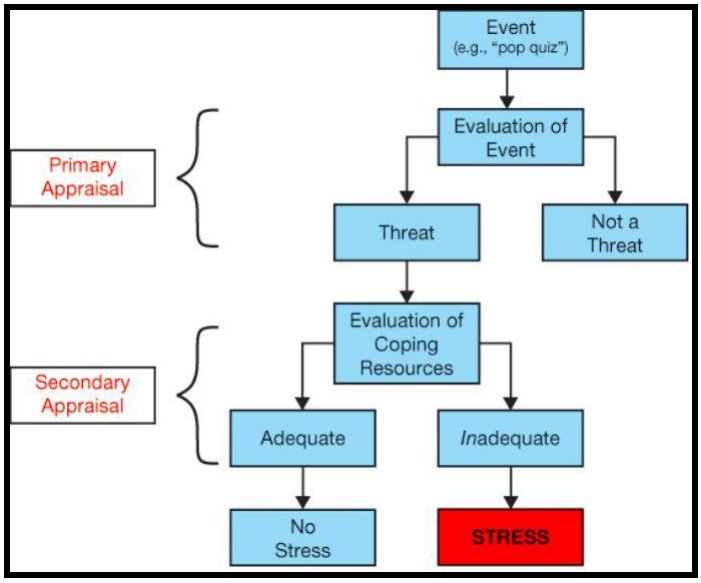
- **Social loafing:** Occurs when an individual puts less effort into working on a task with others.
- **Social norms:** The (usually unwritten) guidelines for how to behave in social contexts.
- **Social roles:** Are more specific sets of expectations for how someone in a specific position should behave.
- **Stereotype:** A cognitive structure, a set of beliefs about the characteristics that are held by members of a specific social group; these beliefs function as schemas, serving to guide how we process information about our social world.
- **Thin slices of behaviour:** Very small samples of a person's behaviour.

Lecture Notes:

- **Stress:** The physical and psychological response to internal or external stressors.
- **Stressors:** Specific events or chronic pressures that place demands on a person or threaten her well-being.
- **Health psychology:** The subfield of psychology that examines the relationship between physical health and psychological health.
- There is a high correlation between psychological stress and physical illness.
- Not all stressors are equal in predicting how our bodies will react to them. We can examine how stressors affect our health using **stress scales**. These stress scales operate by summing points for various stressful life events.
- There are two major stress scales that we'll discuss in this course:
    1. **The Holmes and Rahe Stress Scale:**
        a. The more famous stress scale.
        b. Created for middle aged adults.
        c. The most common stress scale was developed by psychiatrists, Thomas Holmes and Richard Rahe. They asked patients to self-report stressful events (stress scale). Then, they compared their scores on stress scale to their actual medical records.
        d. The stress scale has been tested for validity in multiple populations, but some stressful events are more or less stressful in some cultures than in others.
    2. **College Undergraduate Stress Scale (CUSS):**
- Most of the stressors listed on a stress scale are one-time stressful events.
- Many individuals suffer from **chronic stressors** which are sources of stress that occur continuously or repeatedly.
- Chronic stress often causes greater physical harm than one-time stress.
- Repeated long-term stress changes the way that our body deals with stressors.
- **Stress** is an evolved response to threat.
- Normally, when we're stressed, our adrenal glands are activated.
  E.g. Increase heart and respiration rate → more oxygen in the bloodstream.
  E.g. Increase in cortisol → more glucose in the bloodstream.
  These processes allow us to flee danger.
- Repeated, chronic stress causes a **constant stress response** and after a while, our body loses the ability to cope with the heightened level of physiological response. This constant stress response can result in **general adaptation syndrome**:
    1. Alarm phase: Initial, healthy reaction to stress.
    2. Resistance phase: Body adapts to high stress. Non-stress-related processes are shut down.
    3. Exhaustion phase: Body cannot cope with other processes being shut down. Illness, injury, or death can occur.



- One of the biggest reasons for individual differences in stress response is control. We are more stressed by events that we cannot control. This is true even if we don't exercise that control.
- An experiment done in 1972 by Glass and Singer placed individuals into a room and asked them to complete difficult puzzles. One group did so with intermittent, unpredictable loud noise that they could not control while another group did so with intermittent, unpredictable loud noise that they could turn off, but did not. The group without control suffered in performance. Our perceived control of a stressor affects our stress response.
- Another big reason for individual differences in stress response is how we appraise stressors. There are 2 ways we can appraise stressor.
  Primary appraisal is determining if a stimulus is a threat.
  Secondary appraisal is determining if you can handle the stressor.
  If you have the coping mechanisms to deal with it, then it causes less stress. Otherwise, it's a stressful event.



- There are 4 coping mechanisms that we will look at:
    1. **Repressive Coping:**
        - We engage in **repressive coping** when we avoid situations or thoughts that remind us of a stressor.
        - E.g. Going to sleep or watching Netflix when we're stressed.
        - Often this includes artificially positive viewpoints.
        - Some people are better repressors than others, so this works well for them. However, if repression is challenging, it can make the problem worse.
    2. **Rational Coping:**
        - This is facing the stressor and working to overcome it.
        - For many people, rational coping works better than repressive coping does.
        - Rational coping is the opposite of repressive coping.
        - There are 3 parts to rational coping:
          Acceptance: Coming to realize that the stressor cannot be wished away.
          Exposure: Attending to the stressor, seeking it out.
          Understanding: Working to find the meaning of the stressor in your life.
    3. **Reframing**:
        - Also called **cognitive restructuring** or **cognitive reframing**.
        - This is when we change the way that we think about a stressor.
        - One particular type of reframing is **stress inoculation training**, which is developing repetitive, positive ways to think about a stressor.
    4. **Mediation:**
        - Involves the absence of thought, or focusing on one unstressful thought. This is called the **practice of intentional contemplation**.
        - There are many different meditation practices, but most involve at least some silence.
        - **Mindfulness meditation** is one type of meditation focused on immediate experience, rather than faraway thoughts, including stressors.
        - Meditation changes the way that our brains are structured. There is increased myelination and increased connectivity between areas of the brain responsible for rational thought and areas responsible for emotion.
        - Expert meditators may be better able to regulate their emotions.
- **Active health risk increasing behaviours** require the individual to do the behaviour.
- **Passive risk increasing behaviours** involve the individual not doing a recommended/health behaviour.
- Health outcomes are frequently modified by both of these factors.
- Smoking causes 5 Million deaths per year. It is the leading preventable cause of death in North America. About 1000 Canadians die each year from secondhand smoke. In 2012, about 20% of Canadians smoke.
- Obesity increases the risk of mortality and morbidity. It is becoming more prevalent in Canada.
- According to the WHO, 3 million people die per year from vaccine preventable diseases and 1.5 million of these deaths are children under the age of 5.
- 24-45% of Canadians vaccinate for the flu each year. There are 302 deaths from the flu per year in Canada. There are 28-55K cases of people getting the flu per year over the last 3 years.

- The worst behaviour for health is not exercising.
- Some factors why people make poor health choices include:
    - Media Exposure
    - Peer Pressure
    - Environmental Exposure
    - Science communication
    - Resource access
    - Image based warnings>text only warnings
    - Media
    - SES
    - Heuristics
- Evidence Based Medicine/Care is the best available evidence. It uses clinician experience and patient choice and beliefs.
- Patient centered care is about empathy (sharing their experience as if it is ours, though it is not), acceptance (having respect and warmth for another as a human, regardless of who they are/what they've done) and genuineness (being ourselves without front or façade. Essential for building trust).
- Theory of Change (Transtheoretical Model):
    - Precontemplation
    - Contemplation
    - Preparation/determination
    - Action/Willpower
    - Maintenance
    - Relapse

Textbook Notes:

- **Module 14.1 Behaviour and Health:**
- **Smoking:**
- One of the most widely studied health behaviours is tobacco use.
- Smoking cigarettes causes life-shortening health problems including lung, mouth, and throat cancer, heart disease, and pulmonary diseases such as emphysema.
- Recent reports indicate that 21% of all deaths in Canada over the past decade were due to smoking-related illnesses.
- The life expectancy of the average smoker is between 7 and 14 years shorter than that of a nonsmoker. This number depends upon how much, and for how long, a person smoked. Quitting by the age of 30 greatly reduces the likelihood that a person will die of smoking-related cancers.
- Tobacco use causes an estimated 5 million deaths worldwide each year.
- Cigarette smoking is the leading preventable cause of death in North America.
- One in five Canadian deaths is due to cigarette smoking.
- Close to 1000 Canadians die each year as a result of second-hand smoke.
- **Efforts to Prevent Smoking:**
- In the 1990s, several countries added written warnings to cigarette packages in an attempt to reduce smoking rates. Unfortunately, these labels have had relatively little effect.
- In 2001, Canada became the first country to require companies to include graphic pictorial warnings on cigarette packages. These images included rotting teeth, black lungs, diseased hearts, and sick children. They were also paired with a verbal message. Researchers found that the image-based warnings were much more likely to be noticed

by both smokers and non-smokers than were text-only messages. They were also more useful than text-only messages in educating people about the risks associated with smoking.

- Image-based warnings on cigarette packages are now used in over 30 countries. Numerous studies have shown that these warnings are quite memorable and are having the desired effect.
- **Defining Healthy Weights and Obesity:**
- When discussing weight, psychologists and healthcare workers must also factor in a person's height. To account for height differences, people use the **body mass index (BMI)**, a statistic commonly used for estimating a healthy body weight given an individual's height.
- The BMI is calculated by dividing the person's weight (kg) by the square of the person's height (in metres).
- E.g. If a person were 180 cm tall and weighed 100 kg, their BMI would be $100/1.8^2$. The outcome of this equation is 30.9.
- The BMI is used to screen people for weight categories that indicate whether they are considered normal weight, underweight, overweight, or obese. Someone in the healthy weight range would have a BMI between 18.5 and 24.9. People with a BMI that is less than 18.5 are considered to be underweight and may be at risk of having an eating disorder. A BMI of 25–29.9 is considered overweight, and a BMI over 30 is considered obese.
- **Genetics and Body Weight:**
- Twin, family, and adoption studies all suggest that genes account for between 50% and 90% of the variation in body weight.
- Genetic factors influence body type, metabolism, and other physiological processes that contribute to body weight and size.
- Some researchers have suggested that genes contribute to the development of a **set point**, a hypothesized mechanism that serves to maintain body weight around a physiologically programmed level.
- The set point is a relatively small range encompassing 10% to 20% of one's weight. Your initial set point is controlled by genetic mechanisms, but your actual weight can be modified by environmental factors, namely, what and how much you eat.
- **The Sedentary Lifestyle:**
- Although there are number of activities that could increase the likelihood of someone being obese, data from the 2007 Canadian Community Health Survey (CCHS) suggest that television is the biggest culprit.
- **Social Factors:**
- In addition to genetics and activity levels, obesity rates are also affected by social factors, including influences from one's family. Similarities in body weight among family members are naturally influenced by what and how much they are eating. What children eat is largely based on what their parents provide and allow them to eat, and eating patterns developed in childhood are generally carried into adulthood.
- Furthermore, food advertisements trigger eating.
- **Psychosocial Influences on Health:**
- The environments where we work, live, and play and the people with whom we interact influence both our physical and mental health.

- **Poverty and Discrimination:**
- Health and wealth increase together, and it appears that socioeconomic factors have numerous positive and negative effects.
- People who live in affluent communities not only enjoy better access to healthcare, but also have a greater sense of control over their environments and have the resources needed to maintain a lifestyle of their choosing.
- Individuals who lack this sense of control live in circumstances that can compromise their health.
- People who experience poverty, discrimination, and other social stressors have higher incidences of depression, anxiety, and other mental health problems.
- Furthermore, health problems are magnified by stress. Heart disease is prevalent in socioeconomically disadvantaged populations, and children who experience adverse socioeconomic circumstances are at greater risk for developing heart disease in adulthood. This relationship likely reflects the compound effects of stress, as well as the poorer diet that is often found among individuals residing in communities of low socioeconomic status.
- Discrimination is another stressor that can compromise both physical and mental health. This kind of stressor is particularly problematic because it is often uncontrollable and unpredictable. Being a target of prejudice and discrimination is linked to increased blood pressure, heart rate, and secretions of stress hormones, which when experienced over long periods of time compromise physical health.
- **Family and Social Environment:**
- **Social resilience**, the ability to keep positive relationships and to endure and recover from social isolation and life stressors, can protect individuals from negative health consequences of loneliness and social isolation.
- Marriage is typically the primary social relationship that people establish and has been shown to have long-term health benefits. However, marriage can also be a considerable source of stress.
- **Social Contagion:**
- The social groups that we belong to can also have a large effect on our health-related behaviours. Scientists have found that unhealthy behaviours such as smoking or having a poor diet spread throughout one's social group.
- **Social contagion** is the often subtle, unintentional spreading of a behaviour as a result of social interactions.
- **Module 14.2 Stress and Illness:**
- **Stress** is a psychological and physiological reaction that occurs when perceived demands exceed existing resources to meet those demands.
- **What Causes Stress?:**
- **Appraisal** refers to the cognitive act of assessing and evaluating the potential threat and demands of an event.
- These appraisals occur in two steps. First, the individual perceives a potential threat and begins the **primary appraisal** by determining if a stimulus is a threat. If the answer is no, then the individual will not experience any stress. But, if the answer is yes, the individual will experience a physiological stress reaction as well as an emotional reaction. As these events unfold, the secondary appraisal begins. Here, the individual determines if they can handle the stressor. If the individual thinks they can handle the stressor, they will not feel much stress. Otherwise, the physiological and emotional reactions to the stress will continue.

- **Stress and Performance:**
- Some level of stress can actually be helpful. Without it, the motivation to perform can decline.
- Research found that the link between stress and performance could vary with the task being performed. Researchers noted that stress has positive effects on performance when the tasks being completed are relatively simple, but, if a task is complex, stress will harm performance.
- Importantly, the stress levels associated with these graphs are not the same for everyone. Everyone has an **individual zone of optimal functioning (IZOF)**, a range of emotional intensity in which he or she is most likely to perform at his or her best.
- **Physiology of Stress:**
- The **fight-or-flight response** is a set of physiological changes that occur in response to psychological or physical threats.
- The **general adaptation syndrome (GAS)** is a theory of stress responses involving stages of alarm, resistance, and exhaustion.
- As GAS illustrates, a stressful event first elicits an alarm reaction. Alarm consists of your recognition of the threat and the physiological reactions that accompany it, including increases in blood pressure, muscle tension, heart rate, and adrenaline release. As the stressful event continues, the individual enters the second part of this adaptive response, known as resistance. Resistance is characterized by an individual using his or her physical and mental resources to respond to the stressor in an appropriate way. However, a person can't maintain this level of energy use forever. The third and final stage of the GAS is often referred to as exhaustion. This occurs when the stressful experience depletes your physical resources and your physiological stress response, and thus your ability to cope, declines.
- **The Stress Pathways:**
- The nervous system consists of the central nervous system (brain and spinal cord) and the peripheral nervous system, which includes the ANS. In response to stress, the hypothalamus stimulates part of the ANS known as the sympathetic nervous system, which then causes the inner part of the adrenal glands known as the adrenal medulla to release epinephrine and norepinephrine. These chemicals then trigger the bodily changes associated with the fight-or-flight response.
- Another physiological system involved in the stress response is the **hypothalamic–pituitary–adrenal (HPA) axis**, a neural and endocrine circuit that provides communication between the nervous system (the hypothalamus) and the endocrine system (pituitary and adrenal glands).
- When you perceive that you are in a stressful situation, the hypothalamus and pituitary gland work together to stimulate the release of **cortisol**, a hormone secreted by the adrenal cortex that prepares the body to respond to stressful circumstances. Cortisol may stimulate increased access to energy stores or lead to decreased inflammation.
- **Oxytocin: To Tend and Befriend:**
- Researchers have suggested that whereas men are more likely to react to stress or threats with a fight-or-flight response, women are more likely to have a more social tend-and-befriend response.
- The tend-and-befriend reaction may be promoted by the release of **oxytocin**, a stress-sensitive hormone that is typically associated with maternal bonding and social relationships. Oxytocin influences a number of behaviours including the contraction of

the uterus when a woman is in labour, romantic attachment, social bonding, trust, wound healing, and orgasm.

- **Working the Scientific Literacy Model: Hormones, Relationships, and Health:**
- Social relationships can be a major source of both positive and negative stress, and they can provide a great deal of support during our most stressful times.
- Two hormones, oxytocin and vasopressin, are involved in social behaviour and bonding. Oxytocin has been shown to inhibit activity in the amygdala, a brain region involved with fear and threat responses. It may also prevent the release of cortisol. Vasopressin also has stress-reducing functions. Like oxytocin, the release of vasopressin is controlled by the hypothalamus and pituitary gland, and affects the levels of stress hormones released by the adrenal gland. People with high vasopressin levels tend to report better relationship quality with their spouses. However, oxytocin and vasopressin have health functions that go beyond improving social bonds. Both of these hormones interact with the immune system, specifically to reduce inflammation.
- **Stress, Immunity, and Illness:**
- **Psychoneuroimmunology** is the study of this relationship between immune system and nervous system functioning.
- Stress also has dual influences on immunity. Acute stressors tend to activate the immune system, whereas chronic exposure to stress generally causes suppression of the immune system.
- **Stress, Personality, and Heart Disease:**
- In addition to making people more prone to catching viruses, high stress levels appear to put people at greater risk for developing **coronary heart disease**, a condition in which plaques form in the blood vessels that supply the heart with blood and oxygen, resulting in restricted blood flow.
- The **Type A personality** describes people who tend to be impatient and worry about time, and are easily angered, competitive, and highly motivated. In contrast, the **Type B personality** describes people who are more laid back and characterized by a patient, easygoing, and relaxed disposition. Studies have revealed that people who fall in the Type A category are far more likely to have heart attacks than are Type B people.
- People who have a Type A personality also engage in behaviours that compromise physical health, such as drinking large quantities of alcohol, smoking, and sleeping less than people with a Type B personality. Thus, numerous correlated factors may explain the relationship between Type A personality and risk of coronary heart disease. People with Type A personalities are often successful. However, they are also much more likely to experience heart attacks and strokes than are more relaxed, less hostile individuals.
- **Stress, Food, and Drugs:**
- Stress influences heart functioning in indirect ways as well. Research has consistently shown that people are drawn toward sweet and fatty foods when they are stressed.
- **Stress, The Brain, and Disease:**
- Although stress is often linked to cardiovascular problems like heart attacks and strokes, its negative effect on the immune system makes stress a factor in other conditions as well. E.g. Stress levels can affect the progression of cancer.
- **Module 14.3 Coping and Well-Being:**
- **Coping:**
- **Coping** refers to the processes used to manage demands, stress, and conflict. Coping strategies can include problem-focused coping and emotion-focused coping.

- **Positive Coping Strategies:**
- **Positive psychology** uses scientific methods to study human strengths and potential.
- Although it may seem difficult to imagine experiencing positive emotions during times of stress, doing something simple like watching a funny movie can actually help you cope with stress and negative life experiences.
- **Optimism and Pessimism:**
- Closely linked to positive emotions is the concept of **optimism**, the tendency to have a favourable, constructive view on situations and to expect positive outcomes. People who are optimistic tend to initially perceive situations in a positive way and are also more likely to find positive elements in situations.
- In contrast, **pessimism** is the tendency to have a negative perception of life and expect negative outcomes. These individuals often have what is known as **pessimistic explanatory style**, which is the tendency to interpret and explain negative events as internally based (i.e., as being due to that person rather than to an external situation) and as a constant, stable quality.
- Pessimism is also often linked with **negative affectivity**, the tendency to respond to problems with a pattern of anxiety, hostility, anger, guilt, or nervousness.
- **Resilience:**
- **Resilience** is the ability to effectively recover from illness or adversity. Resilient people tend to have one or more factors stacked in their favour.
- **Post-traumatic growth** is the capacity to grow and experience long-term positive effects in response to negative events.
- **Biofeedback:**
- **Biofeedback** is a therapeutic technique involving the use of physiological recording instruments to provide feedback that increases awareness of bodily responses.
- **Meditation and Relaxation:**
- Many people report significant benefits by using relaxation and meditation techniques to cope with stress and life's difficult periods. Both techniques are designed to calm emotional responses as well as physiological reactions to stress.
- **Meditation** is any procedure that involves a shift in consciousness to a state in which an individual is highly focused, aware, and in control of mental processes.
- In some types of meditation, the individual focuses his or her attention on a chosen object, such as a point on the wall or a physical sensation like the feeling related to breathing. This technique is known as focused attention (FA) meditation.
- A second type of meditation is open monitoring (OM) meditation. This technique also uses focused attention to train the mind and to reduce the influence of distractions.
- **Mindfulness-based stress reduction (MBSR)** is a structured relaxation program based on elements of mindfulness meditation. The primary goal of MBSR is to help people to cope and to relax by increasing the link between one's body and one's mind.
- **Exercise:**
- Researchers discovered that the students who engaged in intense exercise had increased levels of dopamine, epinephrine, and **brain-derived neurotrophic factor (BDNF)**, a protein in the nervous system that promotes survival, growth, and the formation of new synapses.
- **Perceived Control:**
- The most stressful of circumstances are the ones that people have little or no control over.

- **Learned helplessness** is an acquired suppression of avoidance or escape behaviour in response to unpleasant, uncontrollable circumstances.
- **Working the Scientific Literacy Model Compensatory Control and Health:**
- Many people cope with stressful life events through **compensatory control**, psychological strategies people use to preserve a sense of nonrandom order when personal control is compromised.

Definitions:

- **Biofeedback:** A therapeutic technique involving the use of physiological recording instruments to provide feedback that increases awareness of bodily responses.
- **Body mass index (BMI):** A statistic commonly used for estimating a healthy body weight given an individual's height.
- **Brain-derived neurotrophic factor (BDNF):** A protein in the nervous system that promotes survival, growth, and formation of new synapses.
- **Compensatory control:** Psychological strategies people use to preserve a sense of nonrandom order when personal control is compromised.
- **Coping:** The processes used to manage demands, stress, and conflict.
- **Coronary heart disease:** A condition in which plaques form in the blood vessels that supply the heart with blood and oxygen, resulting in restricted blood flow.
- **Cortisol:** A hormone secreted by the adrenal cortex (the outer part of the adrenal gland) that prepares the body to respond to stressful circumstances.
- **Fight-or-flight response:** A set of physiological changes that occur in response to psychological or physical threats.
- **General adaptation syndrome (GAS):** A theory of stress responses involving stages of alarm, resistance, and exhaustion.
- **Hypothalamic-pituitary-adrenal (HPA) axis:** A neural and endocrine circuit that provides communication between the nervous system (the hypothalamus) and the endocrine system (pituitary and adrenal glands).
- **Individual zone of optimal functioning (IZOF):** A range of emotional intensity in which an individual is most likely to perform at his or her best.
- **Learned helplessness:** An acquired suppression of avoidance or escape behaviour in response to unpleasant, uncontrollable circumstances.
- **Meditation:** Any procedure that involves a shift in consciousness to a state in which an individual is highly focused, aware, and in control of mental processes.
- **Mindfulness-based stress reduction (MBSR):** A structured relaxation program based on elements of mindfulness meditation.
- **Negative affectivity:** The tendency to respond to problems with a pattern of anxiety, hostility, anger, guilt or nervousness.
- **Optimism:** The tendency to have a favourable, constructive view on situations and to expect positive outcomes.
- **Oxytocin:** A stress-sensitive hormone that is typically associated with maternal bonding and social relationships.
- **Pessimism:** The tendency to have a negative perception of life and expect negative outcomes.
- **Pessimistic explanatory style:** The tendency to interpret and explain negative events as internally based (i.e., as being due to that person rather than to an external situation) and as a constant, stable quality.
- **Post-traumatic growth:** The capacity to grow and experience long-term positive effects in response to negative events.

- **Psychoneuroimmunology:** The study of the relationship between immune system and nervous system functioning.
- **Resilience:** The ability to effectively recover from illness or adversity.
- **Set point:** A hypothesized mechanism that serves to maintain body weight around a physiologically programmed level.
- **Social contagion:** The often subtle, unintentional spreading of a behaviour as a result of social interactions.
- **Social resilience:** The ability to keep positive relationships and to endure and recover from social isolation and life stressors.
- **Stress:** A psychological and physiological reaction that occurs when perceived demands exceed existing resources to meet those demands.
- **Type A personality:** People who tend to be impatient and worry about time, and are easily angered, competitive, and highly motivated.
- **Type B personality:** People who are more laid back and characterized by a patient, easygoing, and relaxed disposition.

Lecture Notes:

- Some mental health resources available to you as a U of T student:
    1. Health & Wellness Center. This is your first stop for any health related needs you have. This includes physical health and psychological health. These resources are offered to all UTSC students.
    2. SCSU benefit plan. You must purchase this to get its benefits. The SCSU benefits plan, if you are a member, also provides some resources for mental health care.
- **Mental Disorder:** Persistent disturbance or dysfunction in behaviour, thoughts, or emotions that causes significant distress or impairment.
- **Medical Model:** Abnormal, distressing psychological experiences are classified as illnesses that have biological causes.
- **Biopsychosocial Model:** Abnormal, distressing psychological experiences are classified as illnesses that have biological, psychological, and social causes.
- **PSYCHOPATHOLOGY:** The scientific study of mental disorders.
- **OVERPATHOLOGIZING:** Attributing diverse or atypical behaviours or thoughts to psychological illness, particularly when diagnostic criteria are not met.
- **DIAGNOSTIC CRITERIA:** A set of symptoms, behaviours, or characteristics that must be present in order to diagnose an individual with a disorder.
- **ONSET:** The chronological age or situational period when the symptoms of a disorder first appear in an individual.
- **PROGNOSIS:** The likely course (trajectory, development) of a disorder.
- **RISK FACTORS:** A set of biological, psychological, and social characteristics that increase the likelihood of having the disorder.
- **ETIOLOGY:** The biological, psychological, and/or social causes of a disorder.
- **COMORBIDITIES:** Other psychological or physical disorders that frequently co-occur with the disorder in question.
- Diagnostic criteria for physiological disorders can sometimes be quite simple. But, for most mental disorders, there is not a black-and-white diagnostic test. Instead, clinicians rely on a set of criteria that are evaluated with a number of different instruments:
    - Questionnaires
    - Interviews
    - Patient history
- The **Diagnostic and Statistical Manual of Mental Disorders (DSM)** is in its fifth edition. The DSM-5 was published in 2013 and was published by the American Psychiatric Association. It is used predominantly in North America, while the ICD-10 (International Classification of Diseases) is used elsewhere. It uses a biopsychosocial model. Lastly, it is only to be used by clinicians for diagnosis.
- The DSM-5 divides mental disorders into 22 categories, including:
    - Anxiety disorders
    - Depressive disorders
    - Bipolar (and related) disorders
    - Personality disorders
    - Obsessive-compulsive disorders
- The DSM-5 includes information about each disorder that it classifies:
    - Diagnostic criteria
    - Onset
    - Prognosis

    - Risk factors/etiology
    - Comorbidities
- Most DSM disorders have three diagnostic criteria in common:
    1. Causes significant distress/affects functioning.
    2. Cannot be attributed to substance use or other medical condition.
    3. Cannot be better described by another DSM diagnosis.
- The Diagnostic and Statistical Manual is not the only way to think about psychological disorders and it has faced many criticisms. Some criticisms are that it is:
    - Overpathologizing
    - Binary (black and white) system
- To illustrate the DSM components, we'll start by talking about one common type of mental illness, anxiety disorders. There are 2 types of anxiety disorders: Fear and anxiety.
- Fear and anxiety are adaptive reactions to threats. However, anxiety that interferes with normal functioning is **maladaptive**. It decreases our fitness for survival. This pathological anxiety can be classified as one of many anxiety disorders.
- The DSM-5 recognizes 12 types of anxiety disorder. We will examine:
    - Generalized anxiety disorder (GAD)
    - Phobic disorders
    - Panic disorder
- **Generalized anxiety disorder (GAD):**
- **Generalized anxiety disorder** is an anxiety disorder in which worries are not focused on any specific threat. We can use GAD as a case study for examining the different parts of the DSM.
- Diagnostic criteria for GAD:
    1. Excessive anxiety and worry, occurring more days than not for at least 6 months, about more than one event/stressor.
    2. The individual finds it difficult to control the worry.
    3. Three or more of these symptoms:
        a. Restlessness
        b. Fatigue
        c. Concentration deficiency
        d. Irritability
        e. Muscle tension
        f. Sleep disturbance
    4. Causes significant distress/affects functioning.
    5. Cannot be attributed to substance use or other medical condition.
    6. Cannot be better described by another DSM diagnosis.

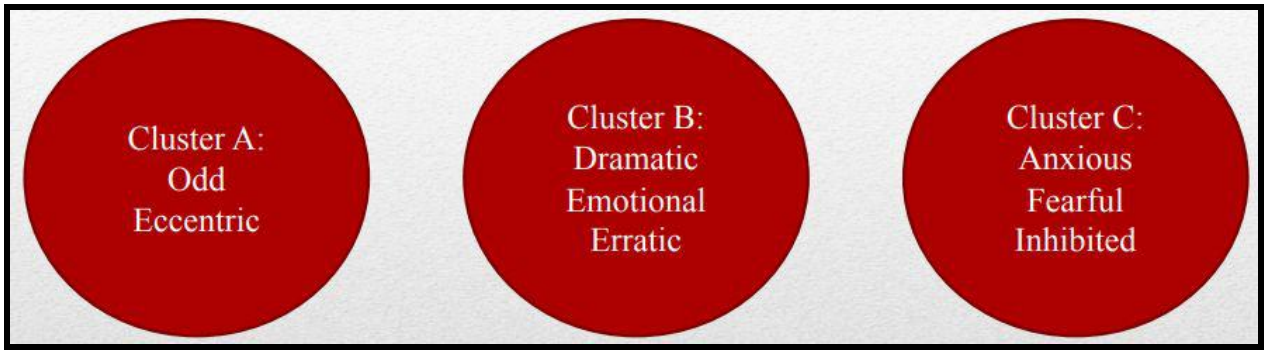
    Note: 4, 5, 6 are common across many disorders.
- The onset of GAD rarely occurs prior to adolescence. The median age for diagnosis is age 30, but many patients report having anxiety symptoms for a long time before reporting them. In the population, the level of anxiety is constant throughout the lifespan, but the content of worries changes.
- For individuals, severity of symptoms waxes and wanes across the lifespan. Furthemore, full remission is rare.

- **Phobic Disorder:**
- A more specific type of anxiety disorder is a **phobic disorder**, a disorder characterized by marked, persistent, excessive fear of specific objects, activities, or situations. Usually the person recognizes the irrationality of their fear but cannot control it.
- **Specific phobia** (12% prevalence):
    - Animals (e.g., dogs, cats, spiders, snakes)
    - Natural environments (e.g. earthquakes, darkness)
    - Ituations (e.g. elevators, enclosed spaces)
    - Medical events (e.g. blood, injections, injury)
    - Other (e.g., loud noises, costumed characters, choking)
- **Social phobia**, a maladaptive fear of being publicly humiliated or embarrassed, has 13% prevalence.
- One theory of why phobic disorders are so common is the **preparedness theory**. It states that we may be evolutionarily adapted to fear certain types of stimulus. Evidence for this hypothesis comes from conditioning. However, these fears may be overdeveloped in some individuals.
- A final type of anxiety disorder is **panic disorder**. Feelings of panic are normal when faced with immediate, life-threatening danger, but many individuals experience panic even when not in danger.
- A **panic disorder** is a sudden occurrence of multiple psychological and physical symptoms typically associated with terror. These symptoms include:
    - Shortness of breath
    - Heart palpitations
    - Sweating
    - Dizziness
    - Derealisation (feeling that the world is unreal)
    - Fear of death/“losing one’s mind”
- Panic episodes are relatively common. About 1/3 of Canadians experience a panic attack once or more per year and typically during extreme stress. However, these occasional panic episodes are not sufficient for a diagnosis . To be diagnosed, an individual must experience: recurrent, unexpected attacks and significant fear of another attack.
- **Mood Disorders:**
- **Mood disorders** are some of the most well-known psychopathological disorders. They are mental disorders that have mood disturbance as their prominent feature.
- Examples of mood disorders are:
    - Depressive disorders:
        - Major depressive disorder (unipolar depression)
        - Dysthymia
        - Double depression
    - Bipolar disorders
- Depressive disorders are present in 22% of the female Canadian population and 14% of the male Canadian population. About 1 in 12 Canadians will experience major depression in their lives.
- The most well-known depressive disorder is major **depressive disorder**, also known as **unipolar depression**. It is a severely depressed mood and/or inability to experience pleasure that lasts two or more weeks and is accompanied by feelings of worthlessness, lethargy, sleep disturbance, and/or appetite disturbance.

- Diagnostic criteria of depressive disorder:
    1. Five or more of the following symptoms present during the same 2-week period:
        a. Depressed mood
        b. Diminished interest
        c. Significant weight loss/gain
        d. Insomnia or hypersomnia
        e. Psychomotor agitation or retardation
        f. Fatigue
        g. Feelings of worthlessness/guilt
        h. Diminished concentration/decisiveness
        i. Recurrent thoughts of death/suicidal ideation
    2. No evidence of a manic episode (abnormal, persistent high mood).
    3. Symptoms cause clinically significant distress/impairment.
    4. Not better described by another DSM disorder.
    5. Not attributable to another medical condition or physiological effects of substance use.
- Onset: May appear at any age, but is most likely to appear in the 20s.
- Prognosis:
    - 2/5 of individuals recover within 3 months.
    - 4/5 of individuals recover within 1 year.
    - 1/5 of individuals do not experience remission.
- Risk factors for MDD:
    - Temperamental (particularly neuroticism, or negative affect).
    - Environmental (childhood experiences, stressful life events).
    - Biological (neurotransmitter imbalance).
    - Genetic (family members of individuals with MDD are 2-4 times more likely to be diagnosed with MDD; ~40% heritability)
- Comorbidity: Substance-related disorders, panic disorders, obsessive-compulsive disorder, anorexia nervosa, bulimia nervosa
- Psychological factors can affect an individual's susceptibility to depression. Many theorists argue that it is the way we think about things that cause depression, rather than the things themselves.
- The **helplessness theory** argues that the way a person thinks about failure makes her more or less likely to be depressed:
    - Attribute failures to internal characteristics.
    - Believe that failures are permanent (stable).
    - Believe that failures are global (apply to many areas of life).
- Sometimes depression lasts for a long time.
- Moderate depressive symptoms that last for more than two years are referred to as dysthymia or dysthymic disorder.
- When dysthymia is punctuated by episodes of major depression, it is called double depression.
- Mood disorders are not always unipolar. **Bipolar disorders** are characterized by cycles of abnormal, persistent high mood (mania) and low mood (depression).
  Bipolar I disorder: At least one manic episode, possibly with hypomanic and depressive episodes as well.
  Bipolar II disorder: Presence of both hypomanic and depressive episodes; no manic episodes.

- Diagnostic criteria for Bipolar I disorder:
    1. Distinct period of abnormal, persistently elevated mood; increased activity or energy; lasting at least 1 week (manic episode).
    2. Three or more of the following:
        a. Inflated self-esteem
        b. Decreased need for sleep
        c. Talkative
        d. Racing thoughts
        e. Distractibility
        f. Increase in goal-directed activity or psychomotor agitation
        g. Excessive involvement in activities with a high potential for painful consequences
    3. Symptoms cause clinically significant distress/impairment.
    4. Not better described by another DSM disorder.
    5. Not attributable to another medical condition or physiological effects of substance use.
- Prevalence:
    - 1 in 40 individuals
    - Not different between women and men (1.1 : 1)
- Onset:
    - Mean age of first episode = 18 years
    - Onset can occur for the first time in the 60s and 70s
- Prognosis:
    - 90% of individuals who experience a manic episode will experience more of them throughout life
    - Full remission is very rare
- Risk factors:
    - Genetic (among the most heritable disorders; coincidence among identical twins = 40-70%)
    - Environmental (high stress, highly emotionally expressive family members; separation/divorce)
    - Psychological (high neuroticism, high conscientiousness)
- Comorbidity:
    - Anxiety disorders
    - Substance use disorders
    - Attention deficit hyperactivity disorder (ADHD)
    - Behavioural disorders
- **Personality disorders** are particularly unusual patterns of behaviour (relative to one's cultural context) that are maladaptive, distressing to oneself or others, and resistant to change.

- The DSM classifies 10 different personality disorders and divides them into 3 clusters.



- One of the most complex and interesting personality disorders is **antisocial personality disorder**, which is a pervasive pattern of disregard for and violation of the rights of others, beginning in childhood and lasting through adulthood.
- **Note:** Antisocial personality disorder is not psychopathy.
- Diagnostic criteria:
    1. Three or more of the following:
        a. Failure to conform to social norms with respect to lawful behaviour.
        b. Deceitfulness.
        c. Impulsivity/failure to plan ahead.
        d. Irritability/aggressiveness.
        e. Reckless disregard for own or others' safety.
        f. Irresponsibility.
        g. Lack of remorse.
    2. The individual is at least 18 years of age.
    3. There is evidence of **conduct disorder** in childhood. This conduct disorder is a persistent pattern of behaviour involving aggression to people or animals, destruction of property, deceitfulness, theft, etc.
       Note: There are many children with conduct disorder but do not get antisocial personality disorder. However, all adults with antisocial personality disorder have had conduct disorder in their childhood.
    4. The behaviours cannot only be occurring during the course of schizophrenia or bipolar disorder.
    5. Symptoms cause clinically significant distress/impairment.
    6. Not better described by another DSM disorder.
    7. Not attributable to another medical condition or physiological effects of substance use.

    However, there's a caveat. Many people with antisocial personality disorder are not distressed by their symptoms.
- **Obsessive-Compulsive Disorder (OCD):**
- **Obsession:** A pattern of unwanted, inappropriate, and persistent thoughts.
- **Compulsion:** Repetitive, ritualistic behaviours.
- Some common obsessions include contamination, doubting, arranging in a specific pattern, and aggressive thoughts.
- Some common compulsions include: checking, cleaning, and repeating actions.

Textbook Notes:

- **Module 15.1 Defining and Classifying Psychological Disorders:**
- **Defining Abnormal Behaviour:**
- As the ascension of scientific thought began to displace the religious domination of the Middle Ages, explanations for mental illness shifted from demon possession to physical illnesses. **Asylums**, residential facilities for the mentally ill, were set up across Europe, with the general goal of curing the patients' bodily afflictions that gave rise to their symptoms. However, their treatments would certainly not meet modern standards of medical care and were generally ineffective.
- Philippe Pinel's , a physician in France, and Dorothea Dix's, a schoolteacher in the United States advocacy for the mentally ill led to widespread reforms that ushered in a new approach, called moral treatment, which led to patients being treated with kindness and decency, able to roam the hospital halls and get outside for fresh air. However, there were still virtually no effective treatments, and many people afflicted with mental illness were permanently incarcerated.
- By the 1950s, approximately 66 000 people were in psychiatric hospitals in Canada. Things began to change in 1955 when the drug chlorpromazine (also known as Thorazine) was introduced. Suddenly, people with schizophrenia and other disorders involving being "out of touch" with reality were able to function independently, even holding down jobs and living at home with their families. The success of chlorpromazine and other medications led to widespread **deinstitutionalization**, the movement of large numbers of psychiatric in-patients from their care facilities back into regular society, which led to a drop in the number of psychiatric inpatients by over 80% over the next three decades.
- The **medical model** sees psychological conditions through the same lens as Western medicine tends to see physical conditions, as sets of symptoms, causes, and outcomes, with treatments aimed at changing physiological processes in order to alleviate symptoms.
- In recent decades, the medical model has begun to give way to the biopsychosocial model, which includes physiological processes within a holistic view of the person as a set of multiple interacting systems.
- Example of the biopsychosocial model:

	Diabetes	**Major Depression**
Biological	Genetic influences on pancreatic function; excessive refined sugars	Genetic influences on neurotransmitter production and function; sleep disruption; lack of positive emotional arousal
Psychological	Poor food choices; sedentary lifestyle; alcohol abuse	Negative self-concept; pessimism; negative life experiences

Sociocultural	Familial and cultural foods and traditions; limited budget for groceries; lack of physical and nutritional education in schools; lack of role models	Lack of social support; social withdrawal; lack of psychological services; stigma regarding psychological treatments

- **What is "Normal" Behaviour?:**
- The key criterion used by psychologists in deciding whether a person has a disorder is whether the person's thoughts, feelings, or behaviours are **maladaptive**, meaning that they causes distress to oneself or others, impairs day-to-day functioning, or increases the risk of injury or harm to oneself or others.
- However, there are many exceptions to this guideline. Some behaviours fulfill these criteria but do not necessarily indicate mental illness. Consider the following:
    - Heavy drug users and people with psychopathic tendencies may not think they have a problem.
    - Family members may be concerned about a person's involvement in a new relationship, or may disapprove of body modifications such as tattoos or piercings.
    - Mourning the loss of a loved one or having a religious conversion may interfere with one's day-to-day activities.
    - Activists may get arrested for protesting government actions and extreme sports enthusiasts may risk death or injury out of passion for their sport.
- **Psychology's Puzzle: How to Diagnose Psychological Disorders:**
- Building on the military's diagnostic system, as well as the sixth edition of the World Health Organization's International Statistical Classification of Disease, the American Psychiatric Association created the **Diagnostic and Statistical Manual of Mental Disorders (DSM)**, a standardized manual to aid in the diagnosis of disorders; this edition described the symptoms of 106 different mental disorders. The purpose for developing the DSM was to provide mental health workers with a reliable method for diagnosing mental illness and to ensure consistency across different institutions and hospitals.
- Originally, the DSM was rooted in a psychobiological view, which argued that mental disorders represented an individual's specific reactions to psychological, social, and biological processes. However, other emphases changed over the years, from an initial focus on psychodynamic views to a later focus on cognitive and biological perspectives. By the mid-1990s, the DSM had gone through several revisions and was expanded to include over 350 different disorders.
- The DSM remains the standard reference manual in the mental health field, particularly in North America. The latest edition, the DSM-5, was published in May 2013. In order to aid in the process of diagnosis, the DSM-5 describes three important pieces of information for each disorder: a set of symptoms and the number of symptoms that must be met in order to have the disorder; the **etiology** (origins or causes) of symptoms; and a prognosis or prediction of how these symptoms will persist or change over time.
- **Critiquing the DSM:**
- The central issue is that there are no perfect ways of measuring psychological disorders as the diagnostic process is highly subjective.
- In order to try to help clinicians cut through some of this confusion, the DSM offers lists of specific symptoms that are indicative of specific disorders. This is an attempt to make

the diagnostic process more objective, which should decrease the likelihood that diagnoses are based on individual clinicians' biases. Unfortunately, this doesn't entirely solve the problem for many reasons. For one, a clinician still has to subjectively decide whether a client displays each symptom and whether it is severe enough to be considered a symptom or just normal experience. Another problem is that different disorders often share many common symptoms; as a result, different mental health professionals might make different diagnoses. The DSM was created, in large part, to help make the process of diagnosing a disorder more objective and reliable, but the very nature of human experience is often subjective, vague, and unreliable. An additional weakness of the DSM is that there is a fine, and essentially arbitrary, line between whether a person is considered to have a disorder or not.

- The DSM also implies that disorders can be objectively defined. This way of thinking has contributed to the stigmatization of mental illness, and has added to the discomfort and resistance people feel towards the mental health field. It has also led to serious problems when the biases and norms operating in a particular time and place get expressed as scientific fact.
- Critics also express concern that giving mental health workers more labels with which to diagnose clients is not necessarily a good thing and may lead to over-diagnosis.
- Critics charge that the handy availability of the ADHD diagnosis makes it too easy to label children as having a "condition" and then medicate them. Studies have shown that between 20% to 70% of children diagnosed with ADHD no longer met the criteria once they reached adulthood this raises the possibility that many children are being medicated for what is, essentially, normal development.
- Perhaps one solution for improving the diagnostic accuracy of the DSM is to develop more objective, biological indicators such as genetic markers, indicators of neurotransmitter dysfunction, or brain abnormalities, that are involved in the symptoms and functional deficits experienced by the individual.
- **The Power of a Diagnosis:**
- The long-term effects of receiving a specific diagnosis can be substantial.
- Small differences in initial diagnosis can lead to big differences in long-term treatment and outcomes.
- An additional concern is that once a person has been labelled as having a disorder, the label itself may change how that person is viewed by others, and how subsequent behaviours are interpreted.
- Psychological disorders may not present the same across different cultures, and a lack of appreciation for these cultural differences can potentially lead to misdiagnosis. For example, **post-traumatic stress disorder (PTSD)** is a common psychological illness involving recurring thoughts, images, and nightmares associated with a traumatic event; it induces symptoms of tension and anxiety and can seriously interfere with many aspects of a person's life. Despite the seemingly universal physiological symptoms of PTSD, researchers have found differences in the cognitive and emotional symptoms between different groups.
- **Working the Scientific Literacy Model Labelling and Mental Disorders:**
- It is the case that being labelled with a mental illness can potentially damage a person's material, social, and psychological well-being in a variety of ways.
- For example, seeing oneself as mentally ill can be associated with low self-esteem or feelings of helplessness. In some cases, a diagnosis may lead a person to indulge in even more extreme or destructive behaviour patterns. Because of stigma and negative

attitudes towards the mentally ill, people may expect that other people will reject and devalue them. This may lead them to withdraw from social contact and fail to seek the support that could help them. People may also become demoralized about their capabilities and themselves in general, which then interferes with their motivations and goal-related striving.

- **Applications of Psychological Diagnoses:**
- One of the most important things to appreciate about psychological disorders is that there is no perfect test for identifying them.
- The fact that our measurements of psychological disorders are not nearly as accurate as we would like makes these issues even more difficult to deal with. In many cases, we cannot even say with confidence whether someone is mentally ill and what psychological illness or disorder they have.
- **The Mental Disorder Defence (AKA the Insanity Defence):**
- In Canada, the insanity defence is now referred to as the **mental disorder defence**. This defence does not deny that the person committed the offence, but claims that the defendant was in such an extreme, abnormal state of mind when committing the crime that he or she could not discern that the actions were legally or morally wrong.
- **<u>Module 15.2 Personality and Dissociative Disorders:</u>**
- **Defining and Classifying Personality Disorders:**
- Mental health professionals identify **personality disorders** as particularly unusual patterns of behaviour (relative to one's cultural context) that are maladaptive, distressing to oneself or others, and resistant to change.
- Obviously, many people experience these basic patterns of behaviour to varying degrees. It is important to remember that personality disorders represent extreme cases. Importantly, personality disorders often persist throughout a person's life.
- The DSM-5 identifies 10 distinct personality disorders, which are categorized into three different clusters based on shared features.
    - Cluster A disorders are characterized by odd or eccentric behaviour.
    - Cluster B disorders are indicated by dramatic, emotional, and erratic behaviour.
    - Cluster C disorders are characterized by anxious, fearful, and inhibited behaviour.
- In addition to these 10 disorders, the DSM-5 also identifies Personality Disorder Not Otherwise Specified, which is a diagnosis given to individuals who exhibit patterns of behaviour consistent with that of a personality disorder, but which does not fit into any of the personality disorder categories described above.
- **Borderline Personality:**
- One of the clearest examples of the emotional dysfunction that lies at the core of personality disorders is found in **borderline personality disorder (BPD)** which is characterized by intense extremes between positive and negative emotions, an unstable sense of self, impulsivity, and difficult social relationships.
- People with BPD experience a wide range of emotions including extremely positive states such as joy, excitement, and love, but also very powerful destructive emotions such as anger, despair, and shame.
- It is believed that borderline personality disorder arises out of the person's attempts to deal with deeply rooted insecurity and severe emotional disturbances that are ultimately rooted in emotionally difficult experiences.
- **Narcissistic personality disorder (NPD)** is characterized by an inflated sense of self-importance and an excessive need for attention and admiration, as well as intense

self-doubt and fear of abandonment. The central focus on the narcissistic person's own feelings and self-importance leaves little room for empathy for others. Instead, they tend to be manipulative and put themselves first, ensuring their own needs are met in their relationships regardless of the toll it takes on others.

- **Histrionic Personality:**
- Emotional dysfunction can also be seen in **histrionic personality disorder (HPD)**, which is characterized by excessive attention seeking and dramatic behaviour.
- **Working the Scientific Literacy Model Antisocial Personality Disorder:**
- In contrast to histrionic personality disorder, which is associated with dramatic behaviour, the diagnosis of **antisocial personality disorder (APD)** is given to individuals who have a profound lack of empathy or emotional connection with others, a disregard for others' rights or preferences, and a tendency toward imposing their own desires, often violently, onto others regardless of the consequences for other people or, often when younger, other animals.
- APD (often referred to as psychopathy) tends to be highly resistant to treatment, in part because individuals with APD are not alarmed or distressed by their actions.
- People with APD tend to be physically and verbally abusive, and destructive, and frequently find themselves in trouble with the law.
- Symptoms of the disorder typically appear during childhood and adolescence, including harming or torturing people or animals, destroying property, stealing, and being deceitful.
- People with APD show very weak startle responses when exposed to unpleasant stimuli.
- **Psychological Factors:**
- People with narcissistic (NPD) or histrionic (HPD) personality disorder also tend to have deeply rooted negative beliefs about the self, how they are regarded, and whether they are loved by others. Much of their dysfunctional behaviour patterns stem from attempts to compensate for these negative self-beliefs.
- Adults with APD and children with conduct disorders (often a precursor to APD) have difficulty learning tasks that require decision making and following complex rules.
- **Sociocultural Factors:**
- Children begin to develop social skills and emotional attachments at home and in their local neighbourhood and community. Not surprisingly, then, troubled homes and communities can contribute to the development of antisocial personality disorder. People with APD have often themselves experienced trauma or abuse.
- In general, personality disorders often involve extensive emotional damage from childhood experiences, ranging from physical violence and sexual abuse to the profound invalidation and insecurity of being repeatedly abandoned or neglected as a child.
- **Types of Dissociative Disorders:**
- In a few cases, some people have such extreme dissociative experiences that they may be diagnosed with a **dissociative disorder**, a category of mental disorders characterized by a split between a person's conscious awareness and their feelings, cognitions, memory, and identity.
- Dissociative disorders include the following conditions:
    - Dissociative fugue: A period of profound autobiographical memory loss. People in fugue states may go so far as to develop a new identity in a new location with no recollection of their past.
    - Depersonalization disorder: A strong sense of the surreal, the feeling that one is not connected to one's body, the feeling of disconnection from one's regular identity and awareness.

    - Dissociative amnesia: A severe loss of memory, usually for a specific stressful event, when no biological cause for amnesia is present.
- Probably the most familiar member of this category is **dissociative identity disorder (DID)**, in which a person experiences a split in identity such that they feel different aspects of themselves as though they were separated from each other. This can be severe enough that the person constructs entirely separate personalities, only one of which will generally be in control at a time. This is also sometimes referred to as **multiple personality disorder**.
- These distinct personalities, or alters, may be so different from one another as to have different genders, sexual orientations, memories, personalities, and autobiographical senses of self and who they are.
- In most cases, dissociative disorders such as DID are thought to be brought on by extreme stress.
- DID is a very rare condition, affecting only about 1% of psychiatric patients, and therefore only a very small fraction of 1% of the general population.
- One approach to testing for DID is to check for memory dissociations between alter identities.
- Another approach to examining DID is to record patterns of brain activity.
- **Module 15.3 Anxiety, Obsessive–Compulsive, and Depressive Disorders:**
- **Anxiety Disorders:**
- **Anxiety disorders** are a category of disorders involving fear or nervousness that is excessive, irrational, and maladaptive. They also are among the most frequently diagnosed disorders, affecting approximately one in every eight Canadians.
- People often attempt to cope with anxiety by limiting themselves to environments, activities, and people that make them feel safe and secure, and by developing rigid habits and ways of doing things that keep life predictable and under control. These patterns evolve in order to help the anxious person manage his or her fear, but they also can limit people's freedom to live their lives as they would like.
- In most people's experience, anxiety occurs as a natural part of the fight-or-flight response. We experience this response as a racing, pounding heartbeat with increased respiration, as our autonomic systems prepare our bodies for quick action.
- **Varieties of Anxiety Disorders:**
- What separates anxiety disorders from normal experiences of anxiety is the intensity and long duration of the response. Anxiety disorders are also distinct in that the response may not be directly connected to one's current circumstances; instead, the anxiety can be free-floating. Either way, anxiety disorders cause a great deal of emotional distress and interfere with people's daily lives.
- **Generalized anxiety disorder (GAD)** involves frequently elevated levels of anxiety, generally from the normal challenges and stresses of everyday life.
- A person with GAD fears disaster lurking around every corner, and may experience symptoms ranging from difficulty sleeping or breathing to difficulty concentrating because of intrusive thoughts. However, because the anxiety arises out of the ongoing situations and circumstances of life, people often have difficulty understanding their experience and cannot identify specific reasons for which they are anxious.
- People with GAD often have unstable, irritable moods, experience difficulty concentrating, and have sleep problems.
- **Panic disorder** is an anxiety disorder marked by occasional episodes of sudden, very intense fear. This condition is distinct from GAD because the anxiety occurs in short

segments, but can be much more severe. The key feature of this disorder is **panic attacks**—brief moments of extreme anxiety that include a rush of physical activity paired with frightening thoughts. A panic attack escalates when the fear causes increased physical arousal, and the increased physical symptoms feed the frightening thoughts. The escalation rarely goes on for more than ten minutes, after which the individual will eventually return to a more relaxed state.

- A substantial subset of people with panic disorder develop a recurring fear that the panic will strike again, particularly in an environment in which they would be exposed and unable to escape from people, such as a shopping mall or other public space. This fear can result in **agoraphobia** (which is often associated with panic disorder), an intense fear of having a panic attack in public; as a result of this fear, the individual may begin to avoid public settings and increasingly isolate him- or herself. In its most extreme forms, agoraphobia leads an individual to stay inside his home almost all the time.
- Thus far, our discussion of phobias has focused on fearful responses to specific stimuli such as snakes. **Social anxiety disorder** is a very strong fear of being judged by others or being embarrassed or humiliated in public.
- People who experience social anxiety deal with going out in public by developing familiar routines and retaining control over their ability to exit circumstances if their anxiety becomes too strong. Social anxiety generally leads people to limit their social activities in favour of not exposing themselves to anxiety, thus making it difficult to succeed and live a normal life in many different ways.
- **Working the Scientific Literacy Model Specific Phobias:**
- In contrast to GAD, where an individual's anxiety can be applied to just about any situation, a **phobia** is a severe, irrational fear of a very specific object or situation.
- A **specific phobia** involves an intense fear of a specific object, activity, or organism.
- A table of phobias:

	Currently Experiencing the Phobia	**Have Experienced the Phobia at One Time**
Animals (snakes, birds, or other animals)	4.7%	50.3%
Natural environment (e.g., heights, storms, water)	5.9%	62.7%
Blood or bodily injury (including injections)	4.0%	42.5%
Situations (e.g., dentists, hospitals, crowded places)	5.2%	55.6%

Other specific objects	1.0%	10.6%

- While phobias often develop as a result of unpleasant or frightening experiences; there's nothing like getting bitten by a dog to make a person afraid of dogs, the overwhelming majority of the triggers for phobias are objects or situations that we may need to fear, or at least be cautious about.
- Phobias can also develop without direct, personal experience.
- **The Vicious Cycle of Anxiety Disorders:**
- The most important part of psychological therapy for anxiety disorders is **exposure**, in which the person is repeatedly and in stages exposed to the object of her fear so that she can work past her emotional reactions.
- For exposure to be most effective, it should be coupled with helping the person to calm themselves down and to learn to tolerate the aversive feelings they are experiencing.
- **Obsessive–Compulsive Disorder (OCD):**
- Until 2013, **obsessive–compulsive disorder (OCD)** was categorized as an anxiety disorder. In the DSM-5, OCD was placed into its own category. Individuals with OCD tend to be plagued by unwanted, inappropriate, and persistent thoughts (obsessions), and to engage in repetitive, often quite ritualistic behaviours (compulsions).
- **Mood Disorders:**
- Mood disorders are very common, affecting almost 10% of adults in Canada and the U.S.
- Due to a combination of biological, cognitive, and sociocultural differences, rates of depression are twice as high among women as among men, and three times as high among people living in poverty.
- **Major depression** is a disorder marked by prolonged periods of sadness, feelings of worthlessness and hopelessness, social withdrawal, and cognitive and physical sluggishness.
- Depression can lead to problems piling up at work and at home, relationships being strained or crumbling, and financial problems starting to interfere with daily life. People deep in depression may find it almost impossible to take care of more than the barest necessities of their lives; their social lives suffer as they stop returning phone calls or emails. Other people may notice and get annoyed or have hurt feelings, which leads the depressed person to feel even worse about himself.
- **Bipolar disorder** (formerly referred to as manic depression) is characterized by extreme highs and lows in mood, motivation, and energy.
- It shares many symptoms with major depression—some distinguish the two by referring to major depression as unipolar depression—but it occurs only about a third as often.
- Bipolar disorder involves depression at one end and mania—an extremely energized, positive mood—at the other end. Mania may take several forms: talking excessively fast, racing thoughts, impulsive and spontaneous decisions, or high-risk behaviours. The experience of a manic episode can be exhilarating and parts of it can be highly enjoyable, but the costs of such excessive, indiscriminate, risky behaviour can be very high. Unfortunately, during a manic state, individuals feel little concern about the potential consequences of their actions. Later, as they come into a more normal frame of mind, they may feel a great deal of remorse and embarrassment for their actions, which contributes to their counter-swing into depression.

- Bipolar disorder encompasses both ends of an emotional continuum, and individuals with bipolar disorder can move from one end to the other at different rates.
- **Cognitive Aspects of Depression:**
- Depression affects cognition as well as emotion. People with depression can become confused and can have difficulty concentrating and making decisions, all of which contribute to growing feelings of helplessness and feeling incapable of doing anything right.
- As a depressed person begins to emphasize negative, self-defeating, and self-critical thoughts, they develop a characteristic depressive or pessimistic explanatory style.
- **Biological Aspects of Depression:**
- Brain-imaging research has identified two primary regions of interest related to depression:
    1. The limbic system, which is active in emotional responses and processing.
    2. The dorsal (back) of the frontal cortex, which generally plays a role in controlling thoughts and concentrating.
- As is the case with panic disorder, a vicious cycle appears to occur with depression. The overactive limbic system responds strongly to emotions and sends signals that lead to a decrease in frontal lobe activity, and this decrease in frontal lobe functioning reduces the ability to concentrate and control what one thinks about.
- Various neurotransmitters, especially serotonin, dopamine, and norepinephrine, are involved in depression. Serotonin appears to be particularly important. People with depression typically have lower serotonin levels than non-depressed individuals. Many anti-depressant medications block the reuptake of serotonin, which leaves more serotonin in the synapse, available to stimulate the postsynaptic neurons.
- The negative emotions of depression are also linked with stress reactions throughout the body.
- Research at the genetic level is also uncovering factors that contribute to the likelihood of being diagnosed with depression. Twin studies suggest an underlying genetic risk for developing major depression. Additionally, behavioural genetics researchers have found that people who inherit two copies of the short version of the 5-HTT gene are at greater risk for developing depression, whereas those who inherit two long copies are at a far lower risk. The gene–environment interaction becomes apparent after an accumulation of events. This interaction between a genetic predisposition for a disorder and life stress is known as the **diathesis–stress model** of psychological disorders.
- **Suicide:**
- Suicide is four times more likely among males than among females.
- Furthermore, the highest suicide rates are actually observed among the elderly population.
- Here are some warning signs that someone may commit suicide:
    - Talks about committing suicide
    - Has trouble eating or sleeping
    - Exhibits drastic changes in behaviour
    - Withdraws from friends or social activities
    - Loses interest in school, work, or hobbies
    - Prepares for death by writing a will and making final arrangements
    - Gives away prized possessions
    - Has attempted suicide before
    - Takes unnecessary risks

    - Has recently experienced serious losses
    - Seems preoccupied with death and dying
    - Loses interest in his or her personal appearance
    - Increases alcohol or drug use

- **Module 15.4 Schizophrenia:**
- **Symptoms and Types of Schizophrenia:**
- **Schizophrenia** refers to what many psychologists and psychiatrists believe is a brain disease that causes the person to experience significant breaks from reality, a lack of integration of thoughts and emotions, and problems with attention and memory.
- **Stages of Schizophrenia:**
- In most cases of schizophrenia, there are three distinct phases: prodromal, active, and residual. These tend to occur in sequence, although individuals may cycle through all three many times.
- In the **prodromal phase**, people may become easily confused and have difficulty organizing their thoughts, they may lose interest and begin to withdraw from friends and family, and they may lose their normal motivations, withdraw from life, and spend increasing amounts of time alone, often deeply engrossed in their own thoughts. It is not uncommon for other people to get upset as a result of these behaviours, assuming the person is lazy or otherwise being irresponsible.
- In the **active phase**, people typically experience delusional thoughts, hallucinations, or disorganized patterns of thoughts, emotions, and behaviour.
- This phase usually transitions into the **residual phase**, in which people's predominant symptoms have disappeared or lessened considerably, and they may simply be withdrawn, have trouble concentrating, and generally lack motivation.
- The symptoms of schizophrenia are most pronounced in the active phase of the disease.
- **Symptoms of Schizophrenia:**
- Schizophrenia is associated with a number of different symptoms. A key distinction is made between positive and negative symptoms.
- **Positive symptoms** refer to the presence of maladaptive behaviours, such as confused and paranoid thinking, and inappropriate emotional reactions.
- In contrast, **negative symptoms** involve the absence of adaptive behaviour, such as absent or flat emotional reactions, lack of interacting with others in a social setting, and lack of motivation.
- One common positive symptom is the presence of **hallucinations**, alterations in perception, such that a person hears, sees, smells, feels, or tastes something that does not actually exist, except in that person's own mind. These experiences are often accompanied by **delusions**, beliefs that are not based on or well integrated with reality.
- In addition to hallucinations and delusions, individuals with schizophrenia often have **disorganized behaviour**. This term describes the considerable difficulty people with schizophrenia may have completing the tasks of everyday life—cooking, taking care of one's hygiene, socializing.
- Individuals with schizophrenia experience several additional problems with cognitive functioning. These range from basic, low-level physiological responses, such as excessive eye blinking in response to stimulation, to more complex cognitive skills, such as those required for standardized achievement tests—test scores tend to drop during adolescence as the disorder begins and progresses.

- Social interaction is often very difficult for people with schizophrenia. These individuals typically have difficulty reasoning about social situations and show relatively poor social adjustment.
- **Common Sub-Types of Schizophrenia:**
- These subtypes were dropped from official practice in 2013, as they are artificial categorizations of complex behaviour patterns, and are often not reliably measurable; but, they are still commonly used and are therefore worth being aware of:
    - **Paranoid schizophrenia**: Symptoms include delusional beliefs that one is being followed, watched, or persecuted, and may also include delusions of grandeur or the belief that one has some secret, insight, power, or some other characteristic that makes one particularly special.
    - **Disorganized schizophrenia**: Symptoms include thoughts, speech, behaviours, and emotions that are poorly integrated and incoherent. People with disorganized schizophrenia may also show inappropriate, unpredictable mannerisms.
    - **Catatonic schizophrenia**: Symptoms include episodes in which a person remains mute and immobile—sometimes in bizarre positions—for extended periods. Individuals may also exhibit repetitive, purposeless movements.
    - **Undifferentiated schizophrenia**: This category includes individuals who show a combination of symptoms from more than one type of schizophrenia.
    - **schizophrenia**: This category reflects individuals who show some symptoms of schizophrenia but are either in transition to a full-blown episode or in remission.
- **Genetics:**
- Studies using twin, adoption, and family history methods have shown that as genetic relatedness increases, the chance that a relative of a person with schizophrenia will also develop the disorder increases.
- **Schizophrenia and the Nervous System:**
- One important neurological characteristic of people with schizophrenia is the size of the brain's ventricles (the fluid-filled spaces in the core of the brain). People with schizophrenia have ventricles that are 20% to 30% larger than people without schizophrenia. The reason for these larger ventricles is a loss of brain matter, which amounts to a reduction of total brain volume by approximately 2% in those individuals with schizophrenia. In particular, the reduced volume can be found in structures such as the amygdala and hippocampus.
- The brains of people with schizophrenia are not just different in size; they also function differently. People with schizophrenia show lower levels of activity in their frontal lobes, both in resting states and when engaged in cognitive tasks, suggesting that these brain regions are not functioning at an optimal level.
- People with schizophrenia have an increased rate of firing in dopamine-releasing cells. Some of this over-activity is in a part of the brain known as the basal ganglia, which is involved in a number of functions including reward responses. As a result of this firing, stimuli that should be meaningless are interpreted as being quite noteworthy.
- Glutamate, another neurotransmitter, appears to be underactive in certain brain regions, including the hippocampus and the frontal cortex. Glutamate is the brain's primary excitatory neurotransmitter, so a reduction of glutamate in those areas would correspond to a reduction of their functioning.
- **Working the Scientific Literacy Model The Neurodevelopmental Hypothesis:**
- People who develop schizophrenia often exhibit identifiably abnormal patterns of behaviour early on. Indeed, the **neurodevelopmental hypothesis** suggests that the

adult manifestation of what we call “schizophrenia” is the outgrowth of disrupted neurological development early in the person’s life.

- **Environmental and Social Influences on Schizophrenia:**
- Some research suggests that a very small proportion of people who use marijuana develop psychotic symptoms, possibly because the drug interacts with the genes involved in schizophrenia.
- Head injuries occurring prior to age 10 also put people who are genetically vulnerable to schizophrenia at greater risk for developing the disorder.

Definitions:

- **Active phase:** Phase of schizophrenia during which people typically experience delusional thoughts, hallucinations, or disorganized patterns of thoughts, emotions, and behaviour.
- **Agoraphobia:** Often associated with panic disorder, agoraphobia results from an intense fear of having a panic attack in public; as a result of this fear, the individual may begin to avoid public settings and increasingly isolate him- or herself.
- **Antisocial personality disorder (APD):** A profound lack of empathy or emotional connection with others, a disregard for others’ rights or preferences, and a tendency toward imposing one’s own desires, often violently, onto others regardless of the consequences for other people or, often when younger, other animals.
- **Anxiety disorders:** A category of disorders involving fear or nervousness that is excessive, irrational, and maladaptive.
- **Asylums:** Residential facilities for the mentally ill.
- **Bipolar disorder:** Characterized by extreme highs and lows in mood, motivation, and energy.
- **Borderline personality disorder (BPD):** A disorder characterized by intense extremes between positive and negative emotions, an unstable sense of self, impulsivity, and difficult social relationships.
- **Catatonic schizophrenia:** Symptoms include episodes in which a person remains mute and immobile—sometimes in bizarre positions—for extended periods. Individuals may also exhibit repetitive, purposeless movements.
- **Deinstitutionalization:** The movement of large numbers of psychiatric in-patients from their care facilities back into regular society.
- **Delusions:** Beliefs that are not based on reality (at least from the perspective of the person’s general culture).
- **Diagnostic and Statistical Manual of Mental Disorders (DSM):** A standardized manual to aid in the diagnosis of disorders.
- **Diathesis–stress model:** The interaction between a genetic predisposition for a disorder and life stress.
- **Disorganized behaviour:** The considerable difficulty people with schizophrenia may have completing the tasks of everyday life.
- **Disorganized schizophrenia:** Symptoms include thoughts, speech, behaviour, and emotions that are poorly integrated and incoherent; people with disorganized schizophrenia may also show inappropriate, unpredictable mannerisms.
- **Dissociative disorder:** A category of mental disorders characterized by a split between conscious awareness from feeling, cognition, memory, and identity.
- **Dissociative identity disorder (DID):** A person experiences a split in identity such that they feel different aspects of themselves as though they were separated from each

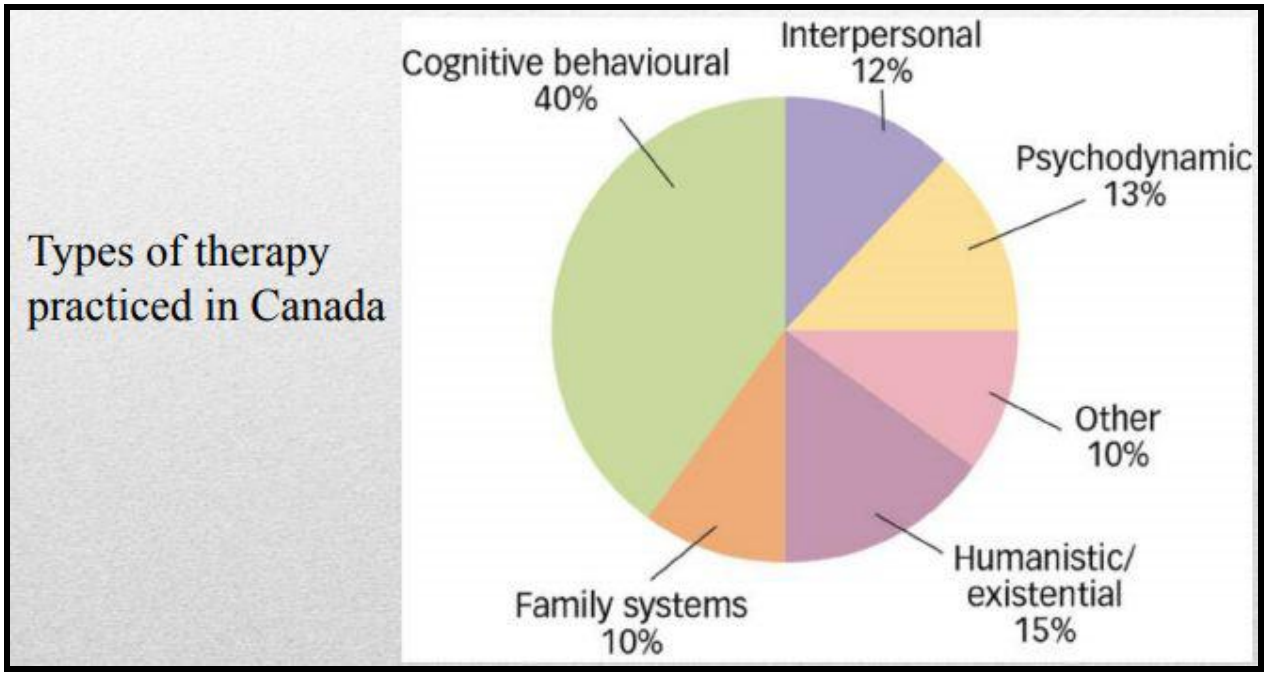
other; this can be severe enough that the person constructs entirely separate personalities, only one of which will generally be in control at a time.

- **Etiology:** Origins or causes.
- **Exposure:** Repeatedly and in stages exposing an individual to the object of his fear so that he can work past his emotional reactions.
- **Generalized anxiety disorder (GAD):** Involves frequently elevated levels of anxiety, generally from the normal challenges and stresses of everyday life.
- **Hallucinations:** Alterations in perception, such that a person hears, sees, smells, feels, or tastes something that does not actually exist, except in that person's own mind.
- **Histrionic personality disorder (HPD):** Characterized by excessive attention seeking and dramatic behaviour.
- **Major depression:** A disorder marked by prolonged periods of sadness, feelings of worthlessness and hopelessness, social withdrawal, and cognitive and physical sluggishness.
- **Maladaptive behaviour:** Behaviour that hinders a person's ability to function in work, school, relationships, or society.
- **Medical model:** Sees psychological conditions through the same lens as Western medicine tends to see physical conditions—as sets of symptoms, causes, and outcomes, with treatments aimed at changing physiological processes in order to alleviate symptoms.
- **Mental disorder defence:** Claims that the defendant was in such an extreme, abnormal state of mind when committing the crime that he or she could not discern that the actions were legally or morally wrong.
- **Multiple personality disorder:** A person experiences a split in identity such that they feel different aspects of themselves as though they were separated from each other; this can be severe enough that the person constructs entirely separate personalities, only one of which will generally be in control at a time.
- **Narcissistic personality disorder (NPD):** Characterized by an inflated sense of self-importance and an excessive need for attention and admiration, as well as intense self-doubt and fear of abandonment.
- **Negative symptoms:** The absence of adaptive behaviour, such as absent or flat emotional reactions, lack of interacting with others in a social setting, and lack of motivation.
- **Neurodevelopmental hypothesis:** The adult manifestation of what we call "schizophrenia" is the outgrowth of disrupted neurological development early in the person's life.
- **Obsessive-compulsive disorder (OCD):** Plagued by unwanted, inappropriate, and persistent thoughts (obsessions), and tending to engage in repetitive, almost ritualistic, behaviours (compulsions).
- **Panic attacks:** Brief moments of extreme anxiety that include a rush of physical activity paired with frightening thoughts.
- **Panic disorder:** An anxiety disorder marked by occasional episodes of sudden, very intense fear.
- **Paranoid schizophrenia:** Symptoms include delusional beliefs that one is being followed, watched, or persecuted, and may also include delusions of grandeur or the belief that one has some secret, insight, power, or some other characteristic that makes one particularly special.

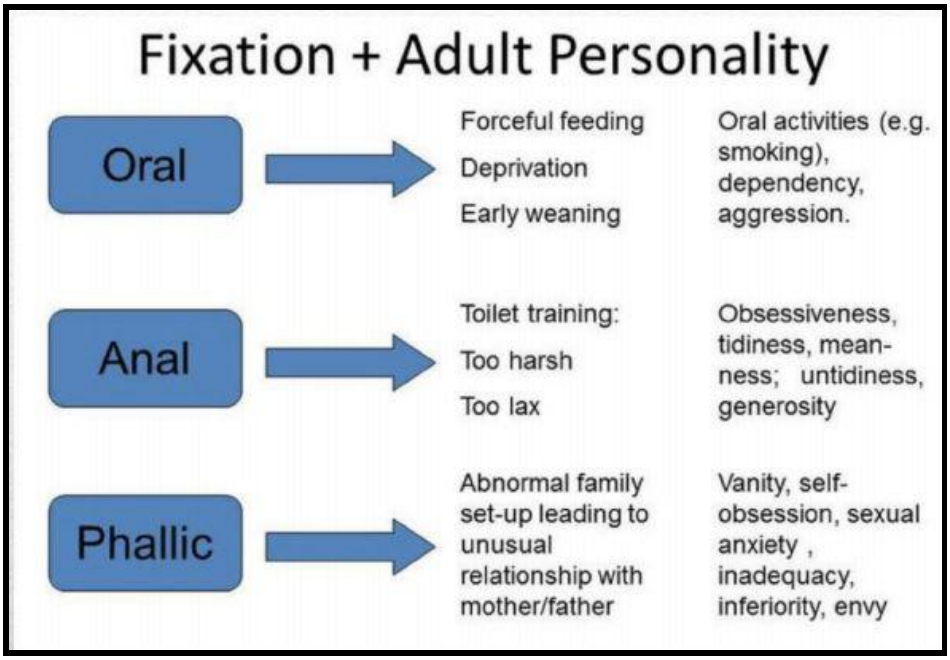
- **Parasitic processing:** Mutually reinforcing feedback loops linking different cognitive and neural processes together.
- **Personality disorders:** Particularly unusual patterns of behaviour (relative to one's cultural context), that are maladaptive, distressing to oneself or others, and resistant to change.
- **Phobia:** A severe, irrational fear of a very specific object or situation.
- **Post-traumatic stress disorder (PTSD):** Is a common psychological illness involving recurring thoughts, images, and nightmares associated with a traumatic event; it induces symptoms of tension and anxiety and can seriously interfere with many aspects of a person's life.
- **Positive symptoms:** The presence of maladaptive behaviours, such as confused and paranoid thinking, and inappropriate emotional reactions.
- **Prodromal phase:** Phase of schizophrenia during which people may become easily confused and have difficulty organizing their thoughts, they may lose interest and begin to withdraw from friends and family, and they may lose their normal motivations, withdraw from life, and spend increasing amounts of time alone, often deeply engrossed in their own thoughts.
- **Residual phase:** Phase of schizophrenia during which people's predominant symptoms have disappeared or lessened considerably, and they may simply be withdrawn, have trouble concentrating, and generally lack motivation.
- **Residual schizophrenia:** This category reflects individuals who show some symptoms of schizophrenia but are either in transition to a full-blown episode or in remission.
- **Schizophrenia:** A brain disease that causes the person to experience significant breaks from reality, a lack of integration of thoughts and emotions, and problems with attention and memory.
- **Social anxiety disorder:** A very strong fear of being judged by others or being embarrassed or humiliated in public.
- **Specific phobia:** An intense fear of a specific object, activity, or organism.
- **Undifferentiated schizophrenia:** This category includes individuals who show a combination of symptoms from more than one type of schizophrenia.

Lecture Notes:

- Types of clinicians:
    1. Psychiatrist
        a. Medical doctor
        b. Can diagnose, prescribe, and practice psychotherapy
    2. Psychologist
        a. Can diagnose and practice psychotherapy
        b. **Note:** There are 2 main types of psychologists, research psychologists and clinical psychologists. Research psychologists cannot diagnose.
    3. School psychologist
        a. Can diagnose but cannot practice psychotherapy.
    4. Clinical counsellor
        a. Can diagnose but cannot practice psychotherapy.
    5. Social worker
        a. Can diagnose but cannot practice psychotherapy.
- After a patient is diagnosed, there are 2 main forms of treatment:
    1. Psychological treatment:
        a. Also called **psychotherapy**.
        b. Techniques in psychotherapy are referred to as **orientations**.



        c. **Psychodynamic therapy** has its roots in Freud's methods of **psychoanalysis**. This therapy is centred on the belief that psychological problems come from ineffectively repressing aggressive and sexual urges in childhood. Psychoanalysis attempts to give the patient insight into these conflicts. One topic that is expected to be discussed in a psychoanalytic session is childhood events. Recall that Freud talked about stages of pychosexual development and he argued that if disruptions occurred during one of these stages, then it led to specific behaviours in adulthood. (This is shown below.)



However, psychodynamic approaches have changed a lot since Freud. The Interpersonal psychotherapy (IPT) has replaced some of Freud's methods with a focus on:

1. Grief (loss of a relationship)
2. Role disputes (conflicts within a relationship)
3. Role transitions (changes in life status, jobs, etc.)
4. Interpersonal deficits (lack of skills to start/maintain relationships)

d. Humanistic/existential therapies:
   - Humanistic psychologists emphasize:
     - The importance of striving for personal improvement.
     - Free will.
     - The positive aspects of the human experience.
   - One type of humanistic therapy is **person-centred therapy**. It assumes that individuals have a tendency toward growth; centres on acceptance and genuine reactions from the therapist. Person-centred therapy assumes that individuals have a tendency toward growth. It centres on acceptance and genuine reactions from therapists. Person-centred therapists abide by these 3 principles:
     - Congruence (words, body language, etc.)
     - Empathy
     - **Unconditional** positive regard

e. Behavioural/cognitive therapy:
   - Behavioural and cognitive therapies are the most common type of psychotherapy in Canada, probably because of the wealth of evidence suggesting their efficacy.
   - Behavioural/cognitive therapy relies on **behaviourism**, study of observable, measurable variables. It focuses on changing behaviour (action) or cognition (thoughts) to combat mental illness.

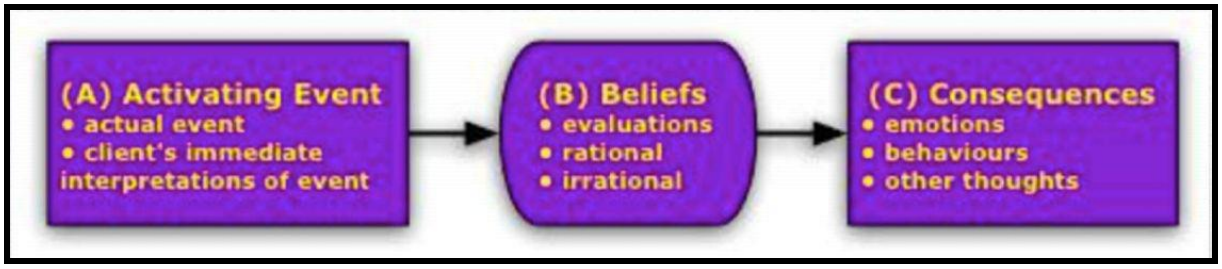
- Behavioural therapy mostly centres around conditioning:
  - **Operant conditioning/Instrumental conditioning:**
  - Rewards for positive behaviour; punishments for negative behaviour.
  - One method is token economy. This is when the therapist rewards positive behaviour with vouchers.
  - **Classical conditioning:**
  - Exposure therapy.
  - Harmless, repeated exposure to a stimulus believed to be threatening → reduction in threat response.
- Like behavioural therapy works to change actions, **cognitive therapy** works to change unhealthy thought patterns leading to mental illness.
- Cognitive therapists focus on restructuring of irrational thought processes:
  - A therapeutic approach that teaches clients to question the automatic beliefs, assumptions, and predictions that lead to negative emotions. They replace irrational, negative thoughts with rational, positive ones.
  - E.g. 1: "I will never be able to make friends."
    What friends have you had in the past? Where? When?
  - E.g. 2:"I will never be able to succeed in school."
    What successes have you had in the past? Where? When?
- Many therapists combine behavioural and cognitive orientations into one technique: **cognitive-behavioural therapy (CBT)**. CBT is the most common psychological treatment for depression and anxiety.
  CBT is:
  - Problem focused
  - Action oriented
  - Transparent (unlike psychoanalysis)

2. Biological treatment

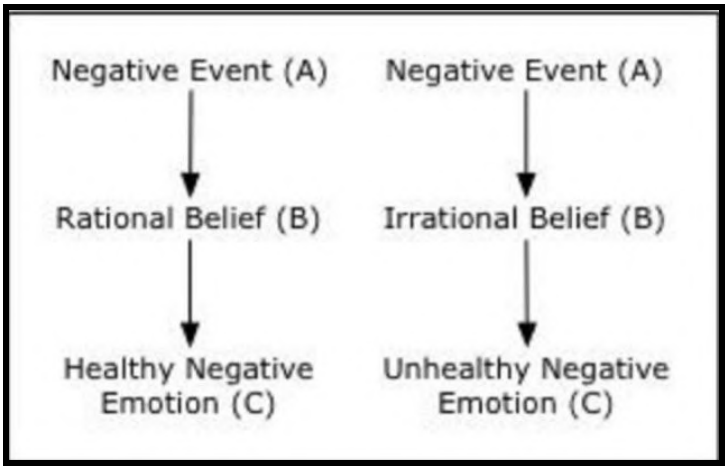
- Why should we treat psychological disorders:
  1. Personal and social costs:
     a. Inability to carry out daily activities
     b. Inability to manage relationships
  2. Financial cost:
     a. ~$51 billion per year in lost work
- These impairments are just as severe as those associated with physical illness
- Getting access to treatment is one of the biggest challenges in mental health. 20% of Canadians suffer from a moderate to serious mental health disorder at some point in their lives but only ~40% of these individuals seek treatment. Of the people who do seek treatment, 1/3 of them are unsatisfied with the level of treatment they receive. This is surprising because Canada has comparatively great access to mental health treatment. Other countries often present worse figures than these.
- Why do people fail to get treatment:

1. People don't realize they have a disorder. People do not typically understand mental illness as well as they understand physical illness.
2. Psychological beliefs prevent people from seeking treatment. Some common ones include:
    a. Belief that they can treat themselves (72.6%).
    b. Belief that mental health problems are not that severe (16.4%).
    c. Belief that they will be stigmatized by others for seeking mental health treatment (9.1%). E.g. Consider the 2 scenarios below. People aren't shy/afraid to say the first one, but are shy/afraid to say the second one.
        i. "I have to leave work early today for a doctor's appointment."
        ii. "I have to leave work early today for a psychotherapist appointment."
3. There are structural barriers to seeking care. People don't know where to look and there are not enough clinicians. Furthermore, OHIP does not cover psychologists/counsellors/social workers and private insurance often has low limits on these types of professionals, so many people have to pay out of pocket. It costs $225/hr to visit a psychologist in Ontario and many private insurance plans only give you $300-$500 per year for counselling.

- ABC Model:



    - This is another diagram of the ABC Model. There are 2 paths:



    - The therapist can't change A, but can change B. Therefore, therapists try to change B.

- **Biological treatment** consists broadly of:
    - Medications (antipsychotic, anti-anxiety, antidepressants, herbal/natural products)
    - Electroconvulsive therapy (ECT)
    - Transcranial magnetic stimulation (TMS)

    - Psychosurgery (destruction or repair of specific brain areas)
- We'll focus on the most common of these, medication. The use of medication for psychological illness began with an accident. Thorazine is a sedative that blocks dopamine receptors. It was given to patients with schizophrenia to make them sleepy. It resulted in euphoric, calm patients instead of agitated patients. Introduction of these **antipsychotic medications** changed the way that schizophrenia is treated. Newer antipsychotics regulate both **dopamine** and **serotonin** and may be more effective.
- Since the discovery of antipsychotics, other mental illnesses have come to be treated with medication.
- **Anti-anxiety medications (benzodiazepines)**:
    - Facilitate GABA neurotransmitter activity → inhibit anxiety.
    - But:
        - Drug tolerance
        - Withdrawal symptoms
        - Side effects: drowsiness, poor coordination
- Antidepressants were also discovered accidentally. **Monoamine oxidase inhibitors**, used to treat tuberculosis in the 1950s, coincidentally elevated patients' moods. It prevented break-down of serotonin and dopamine and had intolerable side effects (dizziness, loss of sexual interest). Most antidepressant medications today are **reuptake inhibitors**. They prevent neurotransmitters from being taken back up and increase concentration of these neurotransmitters in the synaptic space. Reuptake inhibitors can work on many neurotransmitters or just one. While antidepressants are quite effective for treating depression and may have some anti-anxiety effects, they are not used for bipolar disorders. Furthermore, they can have wide-ranging side effects, including:
    - Difficulty concentrating
    - Sexual side effects
    - Weight gain
    - Emotional "numbness"
    - Withdrawal symptoms (e.g., brain 'zaps')
- In addition to psychotherapy and biological interventions, there are natural treatments for psychopathology, particularly for depression and anxiety.

Textbook Notes:

- **Module 16.1 Treating Psychological Disorders:**
- **Barriers to Psychological Treatment:**
- In both Canada and the U.S., surveys show that approximately two-thirds of people with mental health issues do not seek help from the mental health system. Furthermore, even when people do seek therapy, about half of them significantly delay doing so after first becoming aware of their mental health issues, often for years.
- There are many barriers that prevent or delay people from seeking psychological treatment. One problem that almost everyone struggles with is that disorders themselves are inherently ambiguous; there is no objective, easily definable line between "mentally healthy" and "mentally ill" and no litmus test that can tell a person with a high degree of certainty that they need to seek help.
- Also, people very commonly are motivated to not see themselves as mentally ill, so much so that they minimize their symptoms, basically tricking themselves and others to think that they are healthier than they really are. To some, having a mental illness would feel like a sign of weakness or a personal failing, and they may not want to see themselves that way, or may not want to feel like a burden to their families and loved

ones. Other people may be unwilling to risk the social stigma and fear they might embarrass themselves or their families, or they may not trust the psychological or psychiatric professions and be skeptical of the efficacy and safety of different treatments.

- Overcoming such skepticism may make a big difference in helping people seek treatment; for example, in one study, 99% of respondents said they would seek mental health treatment if they believed it would be helpful.
- **Logistical Barriers: Expense and Availability:**
- Two of the main barriers to mental health treatment are about access, whether people can afford the cost and the time for treatment.
- Government healthcare coverage in Canada generally only includes treatment by psychiatrists, leaving counsellors, psychologists, and many types of therapists less able to reach many people who can't afford their services.
- To help overcome these barriers, some community organizations provide offices in lower-income areas where private psychotherapists are scarce and needed. Community mental health centres sometimes provide therapy on a sliding scale, which means the cost of a one-hour session varies depending on the patient's income and whether he has additional health benefits from his employer that would cover some of the therapy costs. Drug treatments can also be made more affordable by using generic products as opposed to brand-name ones.
- **Involuntary Treatment:**
- In Canada and the United States, as well as many other countries, people can be compelled through the courts or on the advice of social service agencies or doctors to be treated for mental illness. The majority of these cases arise due to the person engaging in highly erratic or disturbing behaviour, which results in legal trouble and the perception that the person may be a risk to themselves or others. Involuntary treatment can also be required after the person commits harm to others, as in some cases of domestic violence.
- Proponents of this practice argue that it improves mental health, reduces the costs of mental illness on society, and increases the effectiveness of treatment by ensuring that people with severe disorders receive treatment that they might otherwise avoid; it also may protect society from people who may otherwise commit harm.
- People who are opposed are concerned that this practice is unethical because it can restrict the freedom and take away the rights of people who have not done anything harmful to themselves or others, force people to receive medications that may alter brain function and have dangerous side effects, and easily be misapplied to certain ethnic groups and lower socioeconomic classes.
- **Mental Health Providers:**
- **Clinical psychologists** have obtained PhDs and are able to formally diagnose and treat mental health issues ranging from the everyday and mild to the chronic and severe.
- **Counselling psychologists** are mental health professionals who typically work with people who need help with more common problems such as stress and coping; issues concerning identity, sexuality, and relationships; anxiety and depression; and developmental issues such as childhood trauma. Counselling psychologists may have either a Master's or PhD degree.
- **Psychiatrists** are medical doctors who specialize in mental health and who are allowed to diagnose and treat mental disorders through prescribing medications. Many psychiatrists also work within an integrative biopsychosocial perspective and perform

psychological counselling and therapy, or work closely with other professionals who provide such services.

- Historically, in Canada and most U.S. states, clinical psychologists have not been allowed to prescribe medications, so in many settings psychologists and psychiatrists work together, combining medications with psychological therapies.
- **Inpatient Treatment and Deinstitutionalization:**
- In the 1800s and 1900s, it was common practice to confine people in an asylum. These actions were generally not considered to be "treatments" because there was no hope that the individuals would get better. Instead, the goals were to protect the public and to provide basic care for individuals whose families could not do so.
- This pattern continued until the 1960s, when people started to take a dim view toward merely housing those with disorders in dismal asylums. One major contribution to the shift in attitudes was that effective treatments began to be developed for some disorders, largely in the form of medications. As patients' symptoms became more treatable, a society-wide movement toward **deinstitutionalization** occurred, which involved the movement of large numbers of psychiatric in-patients from their care facilities back into regular society, generally after having their symptoms alleviated through medication.
- Of course, some people still require intensive, long-term care. In place of asylums, many chronic inpatients now live in residential treatment centres. These centres allow inpatients to enjoy much more personal freedom, depending on the severity of the patients' symptoms. Low-level **residential treatment centres** are housing facilities in which residents receive psychological therapy and life skills training, with the explicit goal of helping residents become re-integrated into society.
- **The Importance of Community Psychology:**
- **Community psychology** focuses on identifying how individuals' mental health is influenced by the community in which they live, and emphasizes community-level variables such as social programs, support networks, and community resource centres to help those with mental illness adjust to the challenges of everyday life.
- Through working at a community level rather than narrowly focusing on individuals, community psychologists hope to prevent or minimize the development of disorders, seeking to enhance the factors that strengthen people and make them more resilient to the kinds of stresses that can otherwise undermine mental health.
- **Empirically Supported Treatments:**
- **Empirically supported treatments** (also called evidence-based therapies) are treatments that have been tested and evaluated.
- The most rigorous way of testing whether a certain therapy works is through an experiment. An experiment generally involves randomly assigning volunteers to a treatment group and to a control group. Ideally, experiments are also double-blind, which in this case means that neither the patient nor the individual evaluating the patient is aware of which group the patient is in. However, this level of rigour is often close to impossible to attain when evaluating therapies. One common problem is that it is ethically problematic to place people into a control group that receives no treatment of any kind, because it effectively denies them treatment that they need. It is also generally impossible to use double-blind procedures, given that a therapist, of course, knows which type of treatment she administers, and many clients likely do as well.
- Also, it can be very difficult to assess the general effectiveness of a therapeutic approach if therapists themselves differ widely in their own level of relevant skills.

Furthermore, each client and therapist is unique, and much of the effectiveness of therapy comes from the **therapeutic alliance**—the relationship that emerges in therapy.

- Therefore, even though many therapists may provide the same therapy, each therapist will have a slightly different personal approach, and each combination of client and therapist will be unique.
- **Working the Scientific Literacy Model: Can Self-Help Treatments Be Effective?:**
- **Bibliotherapy** is the use of self-help books and other reading materials as a form of therapy.
- **Module 16.2 Psychological Therapies:**
- **Insight Therapies:**
- **Insight therapies** is a general term referring to therapy that involves dialogue between client and therapist for the purposes of gaining awareness and understanding of psychological problems and conflicts.
- Historically, the formal beginning of insight therapy came with the development of psychoanalysis by Sigmund Freud and its evolution into **psychodynamic therapies**, forms of insight therapy that emphasize the need to discover and resolve unconscious conflicts.
- **Psychoanalysis: Exploring The Unconscious:**
- Psychoanalysis sprang out of Freud's understanding of consciousness. Freud hypothesized that much of our consciousness occurs at the unconscious level, outside of our awareness. In particular, many fundamental urges, such as sexuality and aggression, were thought to constantly influence how we think and behave, although we are not explicitly aware of these processes. In fact, because these urges are generally socially unacceptable, we actively protect ourselves from becoming aware of them through a variety of psychological defences. As a result, the true causes of our behaviour, and thus of our psychological issues, are hidden in the unconscious. This led Freud to emphasize the importance of "making the unconscious conscious," believing that the process of bringing material from the unconscious into consciousness allowed clients to gain insight into their problems and the past experiences from which they stem.
- Core Ideas Forming the Basis of Psychoanalysis:

Adults' psychological conflicts have their origins in early experiences.
These conflicts affect the thoughts and emotions of the individual, and their source often remains outside of conscious awareness.
The unconscious conflicts and their effects are called neuroses (anxieties).
By accessing the unconscious mind, the analyst and client can gain a better understanding of the early conflicts that lead to neuroses.
Once the conflicts are brought to the surface, the analyst and the client can work through them together.

- There are four techniques that have been particularly important in the practice of therapy, historically, and are still in use in many different ways today.
- The first technique is **free association**, during which clients are encouraged to talk or write without censoring their thoughts in any way. Instead, the person allows everything that pops into the mind to come spilling out, no matter how odd or meaningless it may seem. Freud believed that this uncensored thought barrage would reveal clues to the unconscious in ways that clients may not normally have access to.
- The second is **dream analysis**, which is a method of examining the details of a dream (the manifest content), in order to gain insight into the true meaning of the dream, the emotional, unconscious material that is being communicated symbolically (the latent content).
- The third strategy is to pay attention to signs of **resistance**. Resistance occurs in therapy when unconscious material surfaces that the client wishes to avoid. Resistance involves engaging in strategies that keep the information from fully manifesting in conscious awareness. Resistance may be subtle, such as the client using humour to avoid talking about something painful, or it may be obvious, such as the client skipping sessions, becoming angry at the therapist, or becoming cynical about the whole process. This is actually considered a promising signal for the psychoanalyst because it means that they are beginning to access the unconscious motives of clients' present difficulties. Psychoanalysts then attempt to push through the resistance by making clients aware of how and what they are resisting.
- A fourth tool used by psychotherapists involves **transference**, whereby clients direct certain patterns or emotional experiences toward the therapist, rather than the original person involved in the experiences (e.g., their parents).
- **Modern Psychodynamic Therapies:**
- In contrast to Freudian methods, these new approaches are more concerned with the client's conscious rather than unconscious experience. They also acknowledge the effect of cultural and interpersonal influences on individual behaviour, and the impact of important needs such as love, power, belonging, and security. Finally, they are more optimistic about people's ability to reach healthy functioning.
- One example is **object relations therapy**, a variation of psychodynamic therapy that focuses on how early childhood experiences and emotional attachments influence later psychological functioning.
- In contrast to psychoanalysis, object relations therapy does not centre on repressed sexual and aggressive conflicts. Instead, the focus is on "objects," which are the clients' mental representations of themselves and important others. The basic view is that the quality of the early relationship between the child and these "objects" results in the development of mental models for the child.
- **Humanistic–Existential Psychotherapy:**
- The humanistic-existential approach emphasized individual strengths and the potential for growth, and assumed that human nature is fundamentally positive, rather than the essentially negative perspective advanced by psychoanalytic approaches. This shift toward the positive was believed to help individuals access their own sense of personal agency for overcoming their problems.
- Contrasting Psychoanalytic and Humanistic Views of Major Psychological Issues and Debates

Issue	Psychoanalysis	Humanistic Therapy
Conscious vs unconscious	Focuses on unconscious drives	Focuses on conscious experience
Determinism vs free will	Behaviour is determined by repressed sexual and aggressive instincts	Behaviour is chosen freely
Weaknesses vs strengths	Everyone has neuroses	Everyone has strengths
Responsibility for change	The analyst interprets and explains to the client what is wrong	The therapist asks the client what is wrong and attempts to help clarify issues
Mechanism of change	Insight into unconscious conflicts allows problems to be worked through	Unconditional positive regard allows a person to heal and become more authentically themselves

- Humanistic and existential therapies share many similarities: to help people express their authentic selves, to overcome alienation, to become more loving, and to take responsibility for their experiences so that they learn to dwell fully in the present. The major difference between them is that humanistic therapists focus on removing the obstacles that prevent self-actualization from unfolding naturally, whereas existential therapists emphasize the importance of facing painful experiences such as feelings about isolation, death, and meaninglessness, believing that self-actualization involves transforming by facing one's fears and negativity. Even though attaining insight is still an important aspect of these therapies, rather than interpreting the hidden meanings of dreams and free associations, the therapist's role is to listen empathically in order to understand the clients' internal world. This is referred to as a **phenomenological approach**, which means that the therapist addresses the clients' feelings and thoughts as they unfold in the present moment, rather than looking for unconscious motives or dwelling in the past.
- American psychologist Carl Rogers (1902–1987) developed a version of humanistic therapy called **client-centred therapy** (or **person-centred therapy**), which focuses on individuals' abilities to solve their own problems and reach their full potential with the encouragement of the therapist.
- As a humanist, Rogers believed that all individuals could develop and reach their full potential. However, people experience psychological problems when others impose conditions of worth, meaning that they appear to judge or lose affection for a person who does not live up to expectations. Conditions of worth can impact psychological health over the long term, because they increase insecurities within the individual; as a result,

the person is likely to change his behaviour in an attempt to regain affection. If this happens frequently, then the individual's behaviour starts to be primarily about gaining affection and approval, living in order to please others rather than being able to express his own authentic self. That, to Carl Rogers, is a key aspect of most psychological dysfunction.

- Emotion-focused therapy (EFT) is one promising type of person-centred therapy that has evolved from the humanistic–existential tradition. EFT is based on the well-supported belief that it is better to face and accept difficult emotions and thoughts rather than bottle them inside. Therapists employing this form of therapy aim to help clients overcome their tendency to suppress disturbing thoughts and emotions, so that clients are less defensive overall and have fuller access to their whole range of experiences and emotions.
- **Behavioural, Cognitive, and Group Therapies:**
- **Behavioural therapies** attempt to directly address problem behaviours and the environmental factors that trigger them.
- **Systematic Desensitization:**
- To help people learn to handle such an anxiety-inducing situation, therapists will often employ a behavioural technique known as **systematic desensitization**, in which gradual exposure to a feared stimulus or situation is coupled with relaxation training.
- First, the client is guided towards being able to identify and track their own feelings of anxiety versus relaxation, so that they gain greater awareness "in the moment" of when they are feeling anxious and, critically, what it feels like when those feelings subside. Once the client has this kind of inner awareness, the therapist will expose them to a very mild version of the fear-inducing situation, such as imagining walking up to the front of the room where he is going to give the speech. As the client engages in this exercise and feels his anxiety starts to rise, he practises relaxing or engaging in behavioural strategies in order to counteract the anxiety he may feel. With practice, the anxious response to that particular trigger will lessen, and the client then progresses to more realistic and concrete manifestations of the situation, each time practising relaxing until he can learn to tolerate his feelings and counteract them with a relaxation response. This escalation of the intensity of the triggering experience continues slowly, step-by-step, until the client can eventually handle the real thing.
- In some cases, clients may undergo a process called flooding, in which case the client goes straight to the most challenging part of the hierarchy, exposing himself to the scenario that causes the most anxiety and panic.
- **Working the Scientific Literacy Model: Virtual Reality Therapies:**
- **Virtual reality exposure (VRE)** is a treatment that uses graphical displays to create an experience in which the client seems to be immersed in an actual environment. This much more vivid environment feels more like the real thing, and shows promise for helping people learn to relax in the face of their fears. Also, virtual reality therapy may help to reduce a person's tendency to use avoidance strategies.
- **Aversive Conditioning:**
- **Aversive conditioning** is a behavioural technique that involves replacing a positive response to a stimulus with a negative response, typically by using punishment.
- **Cognitive–Behavioural Therapies:**
- Behavioural therapies, despite their effectiveness at changing problem behaviours, do not directly address problematic thoughts. This is extremely important because some

disorders, such as depression, are caused and maintained, in part, by dysfunctional habits of thinking.

- **Cognitive–behavioural therapy (CBT)** is a form of therapy that consists of procedures such as cognitive restructuring, stress inoculation training, and exposing people to experiences they may have a tendency to avoid, as in systematic desensitization.
- Applying Cognitive–Behavioural Therapy to the Cognitive Symptoms of Depression

Cognitive Symptoms	**Example of CBT Coping Strategy**
Internal Attributions: blaming oneself excessively for negative things that happen.	Recognize the role that a person contributed to his problem, but also examine the role of other contextual factors (e.g., the situation, the behaviour of other people).
Stable Attributions: assuming that situations are permanent and irreversible.	In order to highlight the temporary nature of a person's difficulties, provide examples of how things that were true in the past are no longer the case.
Global Attributions: assuming that the results of one negative event will apply to all aspects of a person's life.	Challenge the person to explain exactly how the effects of one negative event will spill over into other parts of his life; provide examples of situations when spillover did not

- **Mindfulness-Based Cognitive Therapy:**
- Mindfulness practice and cognitive–behavioural therapy begin in somewhat similar ways, the goal of each is to get the client better acquainted with her thoughts and feelings, in the present moment of experiencing them. But after this emphasis on increased self-awareness, the two approaches differ significantly. In CBT, there is a basic orientation of "fixing oneself." The purpose of becoming aware of one's patterns of thoughts, feelings, and behaviours is to gain greater control so that the negative patterns get replaced with more positive ones. In contrast, the practice of mindfulness involves consciously adopting an orientation of "accepting" oneself fully. Strictly speaking, from a mindfulness perspective, you don't necessarily have to "do" anything about problematic thoughts and feelings; instead, you make the active choice to accept them as they are, to simply observe them without reacting.
- A key way in which mindfulness affects a person is through the experience of **decentring**, which occurs when a person is able to "step back" from their normal consciousness and examine themselves more objectively, as an observer.
- **Mindfulness-based cognitive therapy (MBCT)** involves combining mindfulness meditation with standard cognitive–behavioural therapy tools.
- **Group and Family Therapies:**
- Family therapists generally take a **systems approach**, an orientation that encourages therapists to see an individual's symptoms as being influenced by many different interacting systems; one important system is the family system, which can play a big role in the development and maintenance of psychological disorders.

- **Evaluating Cognitive–Behavioural Therapies:**
- Behavioural therapies have been shown to be particularly effective at treating symptoms associated with anxiety disorders, such as obsessive-compulsive disorder and specific phobias. They have also proved useful for increasing behavioural skills and decreasing problematic behaviours.
- Cognitive–behavioural therapy has been quite effective in treating depression.
- **Module 16.3 Biomedical Therapies:**
- **Psychopharmacotherapy**—the use of drugs to manage or reduce clients' symptoms—is by far the most frequently used biomedical option, and is often employed in conjunction with some form of psychological therapy. Other options, such as surgery or electrically stimulating the brain, are typically used only in situations where no other available treatments have succeeded.
- **Drug Treatments:**
- **Psychotropic drugs** are medications designed to alter psychological functioning.
- Psychotropic drugs have been developed to take many different courses of action. First, all psychotropic drugs are designed to cross the **blood–brain barrier**, a network of tightly packed cells that only allow specific types of substances to move from the bloodstream to the brain in order to protect delicate brain cells against harmful infections and other substances. After crossing this barrier, psychotropic drugs then affect one or more neurotransmitters. The specific neurotransmitter(s) targeted by a drug will determine which disorders will be responsive to that medication.
- **Antidepressants:**
- **Antidepressant drugs** are medications designed to reduce symptoms of depression.
- In general, antidepressant drugs target areas of the brain that, when functioning normally, are rich in monoamine neurotransmitters, serotonin, norepinephrine, and dopamine. Since multiple neurotransmitters are involved, antidepressants come in several varieties, each with its own way of altering brain chemistry.
- **Monoamine oxidase inhibitors (MAOIs)** were the first type of antidepressant to be developed and widely used. They work by deactivating monoamine oxidase (MAO), an enzyme that breaks down serotonin, dopamine, and norepinephrine at the synaptic clefts of nerve cells. When MAO is inhibited, fewer dopamine, serotonin, and norepinephrine neurotransmitters are metabolized, which in turn leaves more of them available for synaptic transmission. Although MAOIs often effectively relieve symptoms of depression, they are used less frequently than other antidepressants, in part because they can cause many side effects, some quite dangerous, especially when they interact with other medications and certain types of foods (e.g. aged cheeses, smoked meats, alcoholic beverages).
- **Tricyclic antidepressants** were among the earliest types of antidepressants on the market and appear to work by blocking the reuptake of serotonin and norepinephrine. Unfortunately, they also seem to cause many undesirable side effects, including nausea, weight gain, sexual dysfunction, and even seizures.
- Prozac is a **selective serotonin reuptake inhibitor (SSRI)**, a class of antidepressant drugs that block the reuptake of serotonin. These antidepressants alleviate some proportion of the symptoms of depression in some clients, although they also come with certain side effects, as discussed in the opening vignette of this module.
- While antidepressant drugs can alleviate depression (in some individuals), they do not make people happier than they were before becoming depressed.

- **Mood Stabilizers:**
- In contrast to antidepressants, which are primarily used to treat depression (unipolar disorder), **mood stabilizers** are drugs used to prevent or reduce the severity of mood swings experienced by people with bipolar disorder.
- **Lithium** was one of the first mood stabilizers to be prescribed regularly in psychiatry, and from the 1950s to the 1980s was the standard drug treatment for depression and bipolar disorder. Lithium, a salt compound, can be quite effective, but it can also be toxic to the kidneys and endocrine system.
- **Antianxiety Drugs:**
- Sometimes referred to as tranquilizers, **antianxiety drugs** affect the activity of gamma-aminobutyric acid (GABA), an inhibitory neurotransmitter that reduces neural activity. These drugs are prescribed to alleviate nervousness and tension, and to prevent and reduce panic attacks.
- These drugs appear to temporarily alter the structure of GABA receptors, allowing more GABA molecules to inhibit neural activity. The effects of antianxiety drugs are relatively short-lived. They take effect within minutes of ingestion and may last for only a few hours. Given that these drugs facilitate inhibition of the nervous system, it is not surprising that their side effects include drowsiness, tiredness, and impaired attention, especially when they are taken at high doses. More serious side effects include memory impairments, depression, and decreased sex drive. These drugs also have the potential to induce abuse and withdrawal symptoms.
- **Antipsychotic Drugs:**
- **Antipsychotic drugs** are generally used to treat symptoms of psychosis, including delusions, hallucinations, and severely disturbed or disorganized thought. Antipsychotics are the common treatment for schizophrenia and are sometimes prescribed to people with severe mood disorders.
- The first generation of antipsychotic medications (e.g., Thorazine, Halodol) was designed to block dopamine receptors, because symptoms of schizophrenia are related to dopamine activity in the frontal lobes and basal ganglia. However, these drugs had significant side effects, such as seizures, anxiety, nausea, and impotence. One of the more severe and often permanent side effects, **tardive dyskinesia**, is a movement disorder involving involuntary movements and facial tics.
- Newer antipsychotic medications are referred to as **atypical antipsychotics** or second-generation antipsychotics. These drugs are less likely to produce side effects including movement disorders (like tardive dyskinesia) that commonly occur with first-generation antipsychotics.
- **Evaluating Drug Therapies:**
- Many people believe that drugs are designed to target the root physical causes of psychological disorders, and that they should therefore be more effective than psychological approaches to therapy. However, these beliefs are not warranted.
- In many cases, drugs are not more effective than psychological therapies. Approximately 50% to 60% of people who take antidepressants improve within a few months, compared to 30% of people who improve after taking a placebo. Interestingly, about 50% to 60% of people also improve from psychological therapy. Thus, we cannot conclude that drugs are more effective or should replace other approaches to therapy.
- In other cases, such as most anxiety disorders, psychological treatments such as cognitive–behavioural therapy are generally the most effective treatment.

- In many situations, a combination of treatment approaches may work best; for example, combining psychological therapy with antidepressants has been shown to be more effective in treating major depression than medication alone.
- **Technological and Surgical Methods:**
- **Frontal lobotomy** is surgically severing the connections between different regions of the brain.
- **Leucotomy** is the surgical destruction of brain tissues in the prefrontal cortex.
- **Focal Lesions:**
- **Focal lesions** are small areas of brain tissue that are surgically destroyed.
- These brain lesions are only used in some severe cases, when all other treatments have not worked to satisfaction.
- **Electroconvulsive Therapy:**
- **Electroconvulsive therapy (ECT)** involves passing an electrical current through the brain in order to induce a temporary seizure.
- This procedure was introduced in the 1930s and has been viewed negatively for much of its history, in part because in its early days it was generally unsafe and easily abused.
- Over the years, ECT techniques have improved dramatically. Patients' experiences are much less negative; they are now given sedatives and muscle relaxants to reduce the discomfort they may experience and to prevent injury related to the convulsions. ECT has gone from being viewed as a torturous "shock treatment" to a relatively safe procedure, although it is still reserved for the most severe cases of disorders such as depression and bipolar disorder. The side effects are relatively mild, typically consisting of some amnesia for events occurring around the time of the treatment.
- **Repetitive Transcranial Magnetic Stimulation:**
- **Repetitive transcranial magnetic stimulation (rTMS)** is a therapeutic technique in which a focal area of the brain is exposed to a powerful magnetic field across several different treatment sessions.
- The magnetic field can be used to stimulate or inhibit the activity of particular brain areas. Researchers have found that stimulating the left prefrontal cortex, which is typically associated with positive emotional experiences, improves some symptoms of depression. They have also found that reducing the activity of the right prefrontal cortex, which is associated with negative emotional experiences, has the same effect.
- rTMS does not have immediate effects. Treatment typically involves between 10 and 25 rTMS sessions, although some accelerated programs are being tested.
- rTMS has a number of advantages over other treatments. It does not involve anesthesia, induce a seizure, or produce cognitive impairments. Additionally, rTMS may hold considerable promise for reducing symptoms of other mental disorders, such as schizophrenia.
- **Deep Brain Stimulation:**
- **Deep brain stimulation (DBS)** is a technique that involves electrically stimulating specific regions of the brain.
- The procedure involves inserting thin electrode-tipped wires into the brain and carefully routing them to the targeted brain regions. A small battery connected to the wires is then inserted just beneath the skin surface.
- Unlike many of the drugs reviewed previously, DBS produces instantaneous results, and seems to work on even severe cases of depression that have been unresponsive to other treatments.

- Nevertheless, the technique does come with some risk, most obviously the risk of some internal bleeding and infection from the surgical insertion of the wires. DPS can also cause unintended behavioural effects; most are relatively benign and temporary experiences, such as spontaneous laughter and penile erections, but in some cases it may trigger troublesome states of depression or aggression.

Definitions:

- **Antianxiety drugs:** Affect the activity of gamma-aminobutyric acid (GABA), an inhibitory neurotransmitter that reduces neural activity.
- **Antidepressant drugs:** Medications designed to reduce symptoms of depression.
- **Antipsychotic drugs:** Generally used to treat symptoms of psychosis, including delusions, hallucinations, and severely disturbed or disorganized thought.
- **Atypical antipsychotics:** Drugs that are less likely to produce side effects including movement disorders (like tardive dyskinesia) that commonly occur with first-generation antipsychotics.
- **Aversive conditioning:** A behavioural technique that involves replacing a positive response to a stimulus with a negative response, typically by using punishment.
- **Behavioural therapy:** Therapies that attempt to directly address problem behaviours and the environmental factors that trigger them.
- **Bibliotherapy:** The use of self-help books and other reading materials as a form of therapy.
- **Blood–brain barrier:** A network of tightly packed cells that only allow specific types of substances to move from the bloodstream to the brain in order to protect delicate brain cells against harmful infections and other substances.
- **Client-centered therapy:** A humanistic therapy method that focuses on individuals' ability to solve their own problems and reach their full potential with the encouragement of the therapist.
- **Clinical psychologists:** Have obtained PhDs and are able to formally diagnose and treat mental health issues ranging from the everyday and mild to the chronic and severe.
- **Cognitive–behavioural therapy (CBT):** A form of therapy that consists of procedures such as cognitive restructuring, stress inoculation training, and exposing people to experiences they may have a tendency to avoid.
- **Community psychology:** An area of psychology that focuses on identifying how individuals' mental health is influenced by the community in which they live, and emphasizes community-level variables such as social programs, support networks, and community resource centres to help those with mental illness adjust to the challenges of everyday life.
- **Counselling psychologists:** Mental health professionals who typically work with people who need help with more common problems such as stress and coping; issues concerning identity, sexuality, and relationships; anxiety and depression; and developmental issues such as childhood trauma.
- **Decentring:** Occurs when a person is able to "step back" from their normal consciousness and examine themselves more objectively, as an observer.
- **Deep brain stimulation (DBS):** A technique that involves electrically stimulating specific regions of the brain.
- **Deinstitutionalization:** The movement of large numbers of psychiatric in-patients from their care facilities back into regular society.

- **Dream analysis:** A method of examining the details of a dream (the manifest content), in order to gain insight into the true meaning of the dream, the emotional, unconscious material that is being communicated symbolically (the latent content).
- **Electroconvulsive therapy (ECT):** Involves passing an electrical current through the brain in order to induce a temporary seizure.
- **Empirically supported treatments:** Treatments that have been tested and evaluated.
- **Focal lesions:** Small areas of brain tissue that are surgically destroyed.
- **Free association:** Clients are encouraged to talk or write without censoring their thoughts in any way.
- **Frontal lobotomy:** Surgically severing the connections between different regions of the brain.
- **Insight therapies:** A general term referring to therapy that involves dialogue between client and therapist for the purposes of gaining awareness and understanding of psychological problems and conflicts.
- **Leucotomy:** The surgical destruction of brain tissues in the pre-frontal cortex.
- **Lithium:** One of the first mood stabilizers to be prescribed regularly in psychiatry, and from the 1950s to the 1980s, was the standard drug treatment for depression and bipolar disorder.
- **Mindfulness-based cognitive therapy (MBCT):** Involves combining mindfulness meditation with standard cognitive–behavioural therapy tools.
- **Monoamine oxidase inhibitors (MAOIs):** Work by deactivating monoamine oxidase (MAO), an enzyme that breaks down serotonin, dopamine, and norepinephrine at the synaptic clefts of nerve cells.
- **Mood stabilizers:** Drugs used to prevent or reduce the severity of mood swings experienced by people with bipolar disorder.
- **Object relations therapy:** A variation of psychodynamic therapy that focuses on how early childhood experiences and emotional attachments influence later psychological functioning.
- **Phenomenological approach:** The therapist addresses the clients' feelings and thoughts as they unfold in the present moment, rather than looking for unconscious motives or dwelling in the past.
- **Psychiatrists:** Medical doctors who specialize in mental health and who are allowed to diagnose and treat mental disorders primarily through prescribing medications.
- **Psychodynamic therapy:** Forms of insight therapy that emphasize the need to discover and resolve unconscious conflicts.
- **Psychopharmacotherapy:** The use of drugs to attempt to manage or reduce clients' symptoms.
- **Psychotherapy:** Processes for resolving personal, emotional, behavioral, and social problems so as to improve well-being.
- **Psychotropic drugs:** Medications designed to alter psychological functioning.
- **Repetitive transcranial magnetic stimulation (rTMS):** A therapeutic technique in which a focal area of the brain is exposed to a powerful magnetic field across several different treatment sessions.
- **Residential treatment centres:** Housing facilities in which residents receive psychological therapy and life skills training with the explicit goal of helping residents become re-integrated into society.
- **Resistance:** Engaging in strategies that keep information from fully manifesting in conscious awareness.

- **Selective serotonin reuptake inhibitors (SSRIs):** A class of antidepressant drugs that block the reuptake of the neurotransmitter serotonin.
- **Systematic desensitization:** Gradual exposure to a feared stimulus or situation is coupled with relaxation training.
- **Systems approach:** An orientation that encourages therapists to see an individual's symptoms as being influenced by many different interacting systems.
- **Tardive dyskinesia:** A movement disorder involving involuntary movements and facial tics.
- **Therapeutic alliance:** The relationship between the therapist and the patient that emerges in therapy.
- **Transference:** A psychodynamic process whereby clients direct certain patterns or emotional experiences toward the therapist, rather than the original person involved in the experiences (e.g., their parents).
- **Tricyclic antidepressants:** Appear to work by blocking the reuptake of serotonin and norepinephrine.
- **Virtual reality exposure (VRE):** A treatment that uses graphical displays to create an experience in which the client seems to be immersed in an actual environment.