

Lecture 1

Chapter 1: The Evolution of Psychology

The Development of Psychology: From Speculation to Science

- Prior to 1879
 - Physiology and philosophy scholars studying questions about the mind
- Wilhelm Wundt
- University of Leipzig, Germany
 - Campaigned to make psychology an independent discipline
 - Established the first laboratory for the study of psychology in 1879
 - Psychology was born

Wilhelm Wundt's International Influence

- Leipzig, the place to study psychology
 - Graduates of Wundt's program set up new labs across Europe and North America
- G. Stanley Hall (1846 – 1924), Johns Hopkins University
 - Established the first psychology laboratory in the U.S. in 1883
- Between 1883 and 1893, 24 new laboratories in North America
- James Mark Baldwin and James Gibson Hume from the University of Toronto help to establish the American Psychological Association

Lecture 2:

The Battle of the "Schools": Structuralism vs. Functionalism

- Two intellectual schools of thought regarding the science of psychology
 - **Structuralism** – led by Edward Titchener
 - Focused on analyzing consciousness into basic elements
 - **Introspection** – careful, systematic observations of one's own conscious experience
 - **Functionalism** – Led by William James
 - Focused on investigating the function or purpose of consciousness
 - Led to investigation of mental testing, developmental patterns, and sex differences
 - May have attracted the first women into the field of psychology

Who Won the Battle?

- Most historians give the edge of James and functionalists
 - Depending on introspection does not allow for any independent objective evaluation of a claim
 - Today, psychologists are not really categorized as structuralists or functionalists
- Applied psychology and Behaviourism – descendants of functionalism

- **Behaviourism** – early 1900s
- The next major school of thought to influence the development of psychology

Behaviourism: Redefining Psychology

- John B. Watson (1878-1958): United States
 - Founder of Behaviourism
- Psychology = scientific study of behavior
- Behaviour = overt or observable response or activities
 - Radical reorientation of psychology as a science of observable behavior
 - Study a consciousness abandoned
- Stimulus = any detectable input from the environment

Lecture 3

January 9, 2014

John Watson and the Nature-Nurture Debate

- Nurture, not nature
- It has nothing to do with what is making us, it has a lot to do with our experiences in the world
- Behaviourist school of thought emphasized the environment (nurture)
- Focus on stimulus-response relationships
- Stimulus – Response psychology

Sigmund Freud and the Concept of the Unconscious Mind

- Sigmund Freud (1856-1939) Austria
- Founded Psychoanalytic school of thought
- Emphasis on unconscious processes influencing behavior
 - Unconscious= thoughts, memories, and desires that are below the surface of the conscious mind

Freud's Ideas: Controversy and Influence

- Behaviour is influenced by the unconscious
- Unconscious conflict related to sexuality plays a central role in behavior
- The idea that sons would kill their father to have sex with his mother
- Controversial notions caused debate and resistance
- Significant influence on the field of psychology

Behaviourism Revisited: B.F. Skinner

- B.F. Skinner (1904-1990): United States
 - Created the Skinner Box (Rats and Pigeons – button for food)
 - Environmental factors determine behavior
 - Responses that lead to positive outcomes are repeated
 - Responses that lead to negative outcomes are not repeat
 - Beyond freedom and dignity
 - Not free
 - It's predictable if you know about someone's past
 - First teased on animals

The 1950s: Opposition to Psychoanalytic – Theory and Behaviourism

- Charges that both were de-humanizing
- Diverse oppositions groups got together to form a loose alliance
- A new school of thought emerged – **Humanism**
 - Led by **Abraham Maslow (1908-1970)** and **Carl Rogers (1902-1987)**
 - Emphasis on the unique qualities of humans: freedom and personal growth

Putting the Psyche Back in Psychology: The Return of Cognition

- Cognition = mental processes involved in acquiring knowledge and thinking
- 1950s and 60s – Piaget, Chomsky, and Simon
 - Application of scientific methods to studying internal mental events
 - Cognitive Psychology: dominate prospective

Biological Psychology: The biological Basis of Behaviour

- Biological perspective- Behaviour explained in terms of physiological processes (Neuroscience)
- **James Olds**
 - Electrical stimulation of the brain evokes emotional responses in animals
- **Roger Sperry**
 - Left and right brain specialization
- **Donald Hebb**
 - Cell-assemblies describe neural

Contemporary Psychology: Cultural Diversity

- **Ethnocentrism**: viewing one's own group as superior and as the standard for judging
- **Historically**: middle and upper class white males studying middle and upper class white males
- 1980s- increased interest in how cultural factors influence behavior
- Growing global interdependence
- Increased cultural diversity

Evolutionary Psychology: Behavioural Patterns in terms of Evolutionary Significance

- Central Premise: Natural selection occurs for behavioral, as well as physical, characteristics
 - Buss, Daly and Wilson, Cosmides and Tooby – 80s and 90s
 - Studied natural selection of mating preferences, jealousy, aggression, sexual behavior, language, decision making, personality, and development
- Thought provoking perspective gaining in influence, but not without criticism

Positive Psychology

- Positive psychology uses theory and research to better understand the positive, aspects of human existence
- Positive subjective experiences

- Individual traits
- Positive institutions and communities

Psychology Today: A thriving Science and Profession

- Psychology is the science that studies behavior

Lecture 4

January 13, 2014

Chapter 2: The Research Enterprise in Psychology

IClicker Questions:

- 1) Isabel is listening to a piece of classical music and tape recording all her feelings and impressions as she experiences them. Which school of psychology was well known for using this sort of technique? A) **Structuralism**
- 2) “Organisms tend to repeat responses that lead to positive outcomes, and they tend not to repeat responses that lead to neutral or negative outcomes.” These words would most likely have been said by which theorist? C) **B.F Skinner**
- 3) Which of the following statements is LEAST likely to be made by a humanist? B) **The behavior of humans tends to be dictated by environmental circumstances**
- 4) In trying to understand the psychology of addiction, Dr. Jackson focuses on the neurochemical changes that occur, Dr. Fong focuses on the consequences that people experience for their behavior, and Dr. Wenkle focuses on the cognitive processes that people use in choosing their actions. The different perspectives of these three professional help to illustrate which underlying theme? A) **Psychology is theoretically diverse**

The Scientific Approach: A Search of Laws

- *Basic assumption:* events are governed by some lawful order
- *Goals:*
 - 1. Measurement and description
 - 2. Understanding and prediction
 - 3. Application and control
- *Theory Construction*
 - Start with an idea (theory)
 - Hypotheses
 - Empirical research (Conduct study to test hypotheses)
 - Finding support for hypotheses
 - Confidence in theory increases
 - Findings do not support hypotheses
 - Confidence in theory decreases
 - Discord theory

The Scientific Method: Terminology

- Operational definitions are used to clarify precisely what is meant by each variable
- Participants or subjects are the organisms whose behaviors is systematically observed in a study
- Data collection techniques allow for all realistic information
- Statistics are used to analyze data and decide whether hypotheses were supported
- Findings are **shared** through reports at scientific meetings and in scientific journals – periodicals that publish technical and scholarly material
 - Advantages of the scientific method: clarity of communication and relative intolerance of error
- Research methods: general strategies for conduction scientific studies

Lecture 5

January 15th, 2014

Steps in a Scientific Investigation

1. Formulate a testable hypothesis
2. Select the research method and design
3. Collect the data
4. Analyze the data and draw conclusions
5. Report the findings

Experimental Research: Looking for Causes

- **Experiment** = manipulation of one variable under controlled conditions so that resulting changed in another variable can be observed
 - Detection of cause-and-effect relationships
- **Independent variable (IV)** = variable manipulated
- **Dependent variable (DV)** = variable affected by manipulation
 - How does X affect Y?
 - X= independent variable, and Y= Dependent variable
 - **Example:** X= Drinking Y=Driving

Experimental and Control Groups: The Logic of the Scientific Method

- **Experimental Group**- subjects who receive some special treatment in regard to the independent variable
- **Control Group**- Similar subjects who do not receive the special treatment
- Must compare your experimental group to an control group
 - Logic:
 - Two groups alike in all respects (**random assignment**)
 - Manipulate independent variable for one group only
 - Resulting differences in the two groups must be due to the independent variable
- Extraneous and confounding variables
 - Other variables may come into affect between the independent and dependent variables

- **Confounding variables:** History behind something

Experimental Designs: Variations

- Expose a single group to two different conditions
 - Reduces extraneous variables
- Manipulate more than one independent variable
 - Allows for study of interactions between variables
- Use more than one dependent variable
 - Obtains a more complete picture of effect of the independent variable
Ex. Room temp. vs music (how loud it is)

Strengths and Weaknesses of Experimental Research

- *Strengths:*
 - Conclusions about cause-and-effect can be drawn
- *Weaknesses:*
 - Artificial nature of experiments
 - Ethical and practical issues
- Naturalistic observation as an alternative

Deceptive/Correlational Methods:

- Methods used when a researcher cannot manipulate the variables under study
 - Naturalistic observation
 - Case Study
 - Surveys
- Allow researchers to describe patterns of behaviours and discover links or associations between variables but cannot imply causation
 - **Ex.** Other variable that plays into drinking is stress because of his or her job
Sharks and ice-cream = correlations
 - Other variable added is the summer because they are related

IClicker Questions:

- 1) What is an operational definition? **C) Its provides a logical basis for each term**
- 2) Diaz conducts a decision-making experiment to determine if people reason more logically when they have more time to decide. All the participants who are under 40 are allowed 15 minutes to reach a decision about a problem; all the participants who are over 40 are allowed 20 minutes to reach a decision about the same problem. What is the problem with this experimental design? **D) The age of the participants is confounded with the independent variable**
- 3) Which of the following is FALSE regarding the experimental method? **D) it is virtually impossible to conduct a true experiment with human beings**

Statics and Research: Drawing Conclusions

- Statistics- using mathematics to organizer, summarize, and interpret numerical data

- Descriptive stats
- Inferential stats

Descriptive Statistics: Measures of Central Tendency

- **Measures of central tendency**= typical or average score in a distribution
- **Mean:** arithmetic average of scores
- **Median:** score falling in the exact centre
- **Mode:** most frequently occurring score
- Which most accurately depicts the typical?

Lecture 6

January 17, 2014

Descriptive Statistics: Variability

- Variability: how much scores vary from each other and from the mean
 - Standard deviation: numerical depiction of variability
 - High variability in data set: High standard deviation
 - Low variability in data set: low standard deviation

Descriptive Statistics: Correlation

- When two variables are related to each other, they are correlated
- Correlation= numerical index of degree of relationship
 - Correlation expressed as a number between 0 and 1
 - Can be positive or negative
 - Numbers closer to 1(+ or -) indicated stronger relationship
 - Zero= no relationship at all
 - If it is a negative number, the more correlated it will be

Correlation: Prediction, Not Causation

- Higher correlation coefficients = increased ability to predict one variable based in the other
 - Sat/Act scores moderately correlated with first year college GPA
- 2 variables may be highly correlated, but not causally related
 - Foot size and vocabulary positively correlated
 - Teachers and alcohol?
 - The third variable problem
 - Ice-cream, drowning and weather
 - $X=Y+Z$

Inferential Statistics: Interpreting Data and Drawing Conclusions

- Hypothesis testing: do observed findings support the hypotheses?
 - Are findings real or due to chance?
- Statistical significance= When the probability that the observed findings are due to chance is very low
 - Very low = Less than 5 chances in 100/ .05 level

- 19 times out of 20
- Random chance

Meta-Analysis:

- A study of many other studies
- Combines that statistical results of many studies asking the same questions
- Offers an estimate of the size and consistency of a variable's effects

Evaluating Research: Methodological Pitfalls

- Sampling bias (WEIRD)
- The Placebo Effect
 - Health would improve if they believe what they are given would help them get better
 - If they get better that means it was effective
- Distortions in self-report data:
 - Social desirability bias
 - Response set
 - Halo effect
- Experimenter bias
 - The double-blind solutions

January 20th, 2014

Lecture 7

- Population
 - Representative Sample
 - Unrepresentative Sample

Ethics in Psychological Research: Do the Ends Justify the Means?

- The ends justify the means
- The question of deception
 - Ethical board
- The question of animal research
 - Controversy among psychologists and the public
- Ethical Standards for research: the American Psychological Association and CPA
 - Ensures both human and animal subjects are treated with dignity

Appendix B:

Statistical Methods: Graphing Data

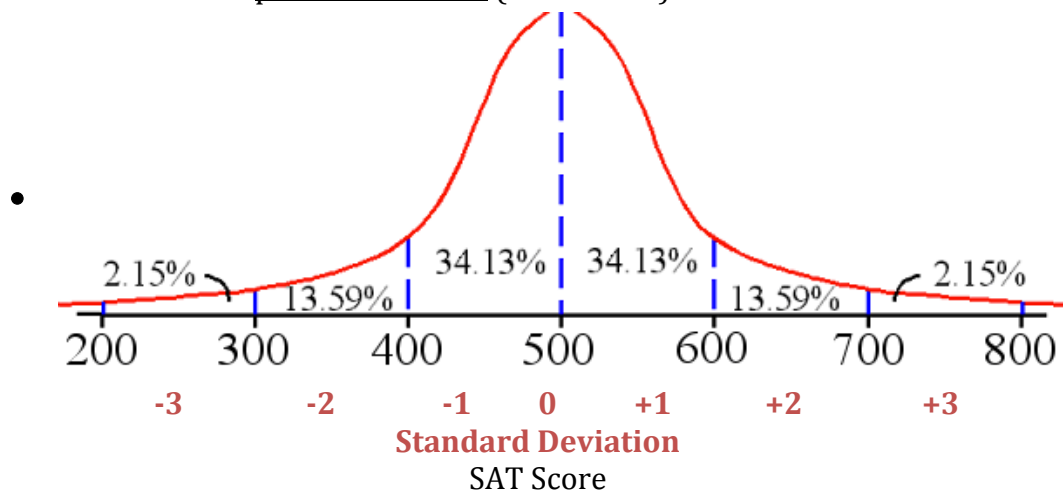
- Statistics is the use of numbers to describe a certain group of data
- Frequency distribution (Tally Chart)
- Histogram (Bar Graph)
- Frequency Polygram (Line Graph)

Descriptive Statistics

- Measures of Central Tendency
 - Mean (arithmetic average of summed scores)
 - Median
 - Mode
- Skewed Distributions (Left and Right)
- Negative/Positive
- Measuring Variability
 - Standard deviation – tells how similar or different the scores are

The Normal Distribution:

- Psychological tests (ex. IQ Tests)
 - Relative measures (depends on the group you are compared to (ex. Masters vs. Undergraduates IQ Tests))
 - Standard deviation the unit of measure
- Conversion to percentile scores (SAT Scores)

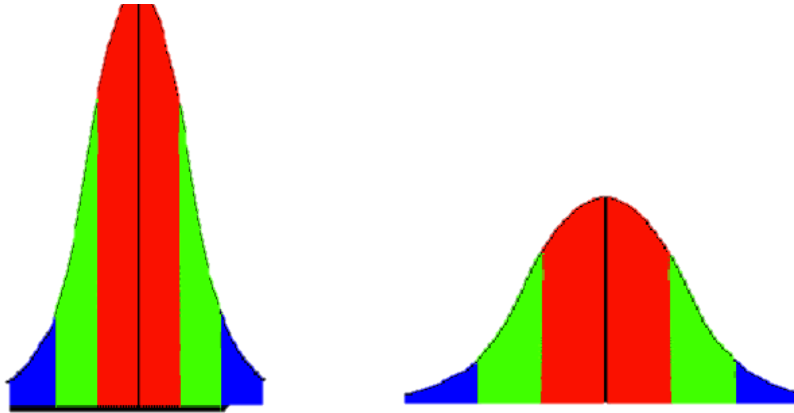


Measuring Correlation

- Correlation Coefficient
 - Positive: Direct relationship
 - Negative: inverse relationship
- Magnitude: 0 to plus/Minus one

IClicker Questions:

1. Which set of golf scores will have the largest standard deviation? **B**

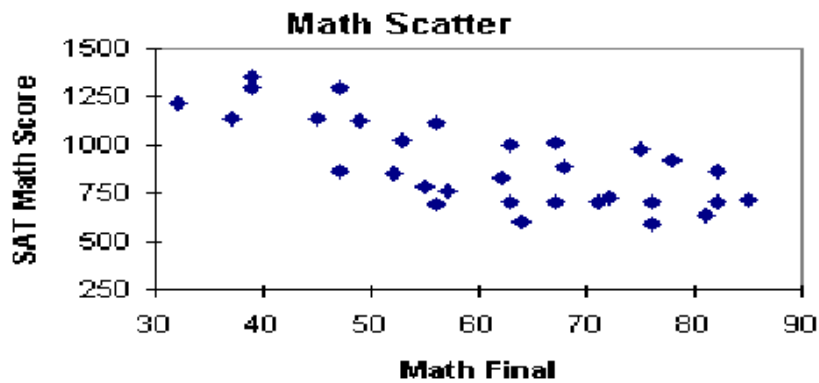


A- Smaller- closer in scores

B – Bigger standard deviation (more of a range)

2. IQ is distributed normally within the population with a mean of 100 and a standard deviation of 15. If a student has an IQ of 130 What is true? **B. The student's IQ is 2 standard deviations above the norm**

3. What is the likely correlation?



D. Moderate Negative

January 22, 2014

Lecture 8

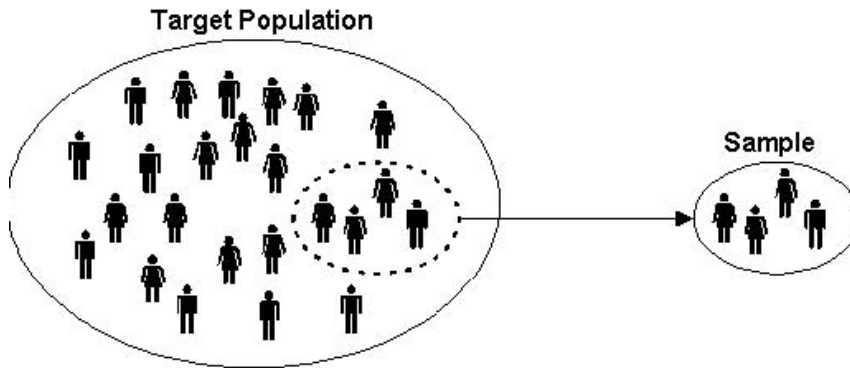
Correlation and the coefficient of determination

- The coefficient of determination is an index of a correlation's predictive power. Whether positive or negative, stronger correlations yield greater predictive power.

Hypothesis Testing

- *Inferential statistics* – relationship between two things and trying to understand it
- *Sample* – has to represent the population
- *Null hypothesis* vs. research hypothesis
- *Null hypothesis*- the opposite to the hypothesis

- *Statistical significance*

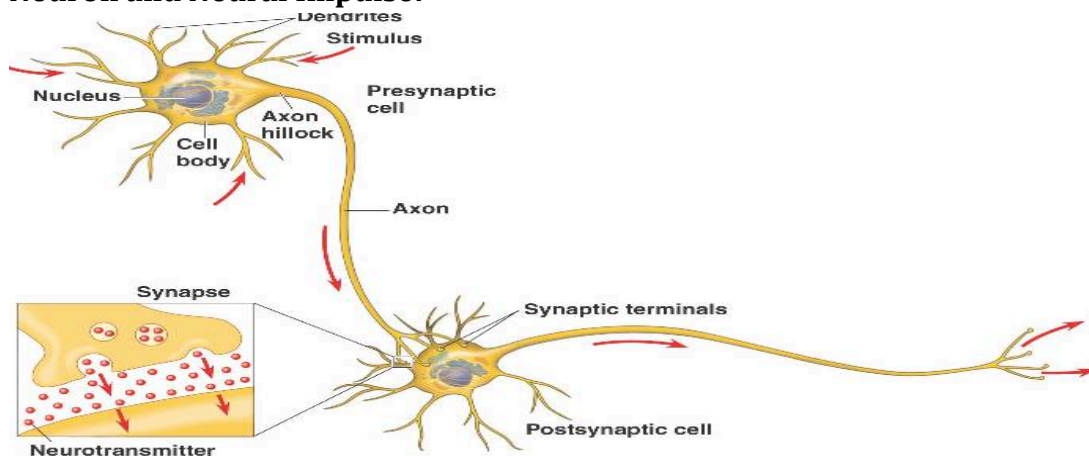


Chapter 3: The Biological Bases of Behaviour

Communication in the Nervous System

- *Hardware:*
 - Glia- structural support, insulation, and communication
 - Neurons- Communication
 - Soma- Cell body
 - Axon- Transmit away
 - Dendrites- receive

Neuron and Neural Impulse:



Neural Communication: Insulation and Information Transfer

- *Myelin sheath* – speeds up transmission
- *Terminal Button* – end of axon; secretes neurotransmitters
- *Neurotransmitters* – chemical messengers

- *Synapse* – point at which neurons interconnect

Neural Impulse: Electrochemical Beginnings

- Hodgkin and Huxley (1952) – Giant squid
 - Fluids inside and outside neuron
 - Electrically charged particles (ions)
 - Neuron at rest – negative charge on inside compared to outside
 - 70 millivolts = resting potential

Neural Impulse: The Action Potential

- Stimulation causes cell membrane to open briefly
- Positively charged sodium ions flow in
- Shift in electrical charge travels along neuron
- The Action Potential – signal that moves a long
- All – or – none law
 - The neuron either fires or it doesn't

Lecture 8:
January 24, 2014

Iclicker

1. What are three basic components of the most neurons? **B.** Cell body, axon and dendrites

The Synapse: Chemical as Signal Couriers

- Synaptic cleft
- Presynaptic neurons
 - Synaptic vesicles
 - Neurotransmitters
- Postsynaptic neurons
 - Receptor sites

Synapse:

- When a neural impulse reaches an axon's terminal buttons, it triggers the release of chemical messengers called neurotransmitters.

When a Neurotransmitter Binds: The Postsynaptic Potential

- Voltage change at receptor site – postsynaptic potential (PSP)
 - Not all-or-none
Build up
 - Changes the probability of the postsynaptic neuron firing
Example: pain
- Positive voltage shift – excitatory PSP
- Negative voltage shift – inhibitory PSP

1. **Synthesis** and **storage** of neurotransmitter molecules in synaptic vesicles
2. **Release** of neurotransmitter molecules into synaptic cleft
3. **Binding** of neurotransmitters at receptors sites on postsynaptic membrane

- 4. **Inactivation** (by enzymes) or **removal** of neurotransmitters
- 5. **Reuptake** of neurotransmitters sponged up the presynaptic neuron

Signals: From Postsynaptic Potentials to Neural Networks

- One neuron, signals from thousands of other neurons
- Requires integration of signals
 - PSPs add up, balance out between IPSPs and EPSPs
- Neural networks
 - Patterns of neural activity
 - Interconnected neurons that fire together or sequentially
- Synaptic connections
 - Elimination and creation
 - Synaptic pruning

Neurotransmitters

- Specific neurotransmitters work at specific synapses
 - Lock and Key mechanism
- Agonist – mimics neurotransmitter action
- Antagonist – opposes action of neurotransmitter
- 15 – 20 neurotransmitters known at present
- Interaction between neurotransmitter circuits
- Table 3.1

Lecture 9:
January 27th, 2014

Iclicker:

- Which of the following is the correct sequence of structures through which information flows in a neuron? **D. Dendrites to soma to axon**
- Peggy smells a very strong odour; Harry smells an odour that is barely detectable. Based on what is known about neural transmission, what should we predict about each of their action potentials? **A. They will be the same in both individuals due to the all-or-none principle**

Organization of the Nervous System:

- Central nervous system (CNC) – brain and spinal cord
 - Tells you whether or not you are experiencing pain
 - Afferent = toward the CNS
 - Efferent = away from the CNS
- Peripheral nervous system – nerves that lie outside the central nervous system
 - Somatic nervous system – voluntary muscles and sensory receptors
 - Autonomic nervous system (ANS) – controls automatic, involuntary functions
 - Sympathetic – Go (Fight – or – flight)
 - Parasympathetic – Stop

- The central nervous system (CNS) consists of the brain and the spinal cord
- When under threat, your whole body becomes tense (Autonomic nervous system)

Brain Regions and Functions:

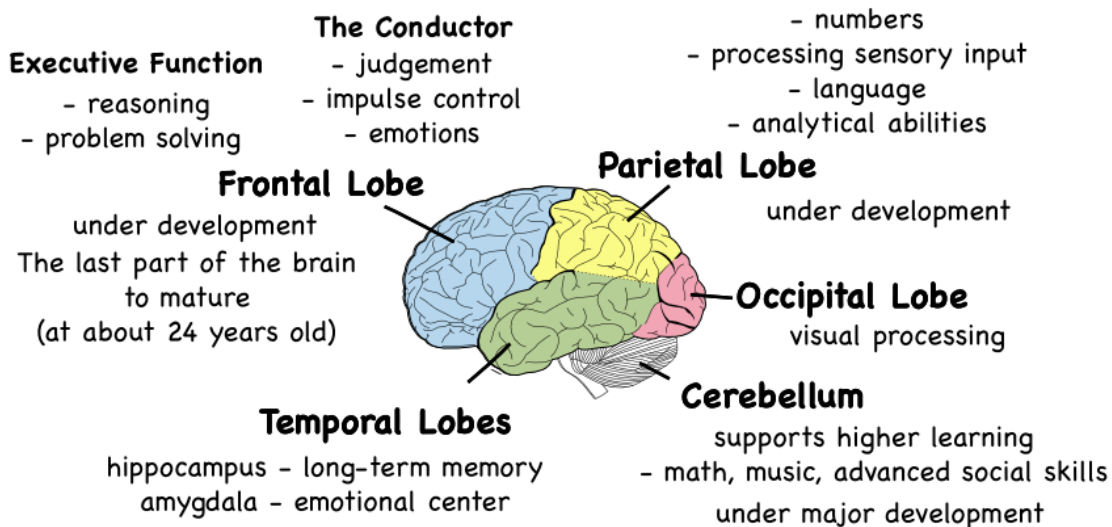
- *Hindbrain* – vital functions – medulla, pons and cerebellum
- *Midbrain* – sensory functions – dopaminergic projections, reticular activating system
- *Forebrain* – emotion, complex thought – thalamus, hypothalamus, limbic system, cerebrum, cerebral cortex

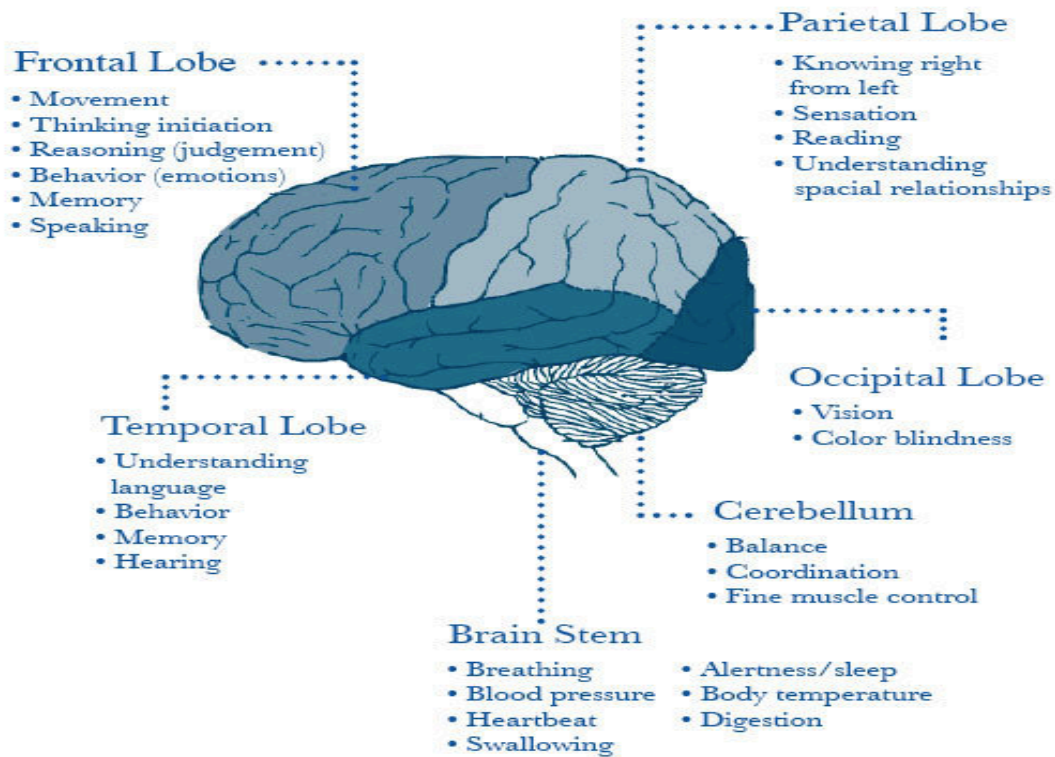
Studying the Brain: Research Methods

- Electroencephalography (EEG)
- Damage studies / lesioning
- Electrical Stimulation (ESB)
- Transcranial Magnetic Stimulation
- Brain imaging
 - Computerized tomography (CAT)
 - Positron emission tomography (PET)
 - Magnetic resonance imaging (MRI)

The Cerebrum: Two Hemispheres, Four Lobes

- Cerebral Hemispheres – two specialized halves connected by the corpus callosum
 - Left hemisphere – verbal processing: language, speech, reading, writing
 - Right hemisphere – nonverbal processing: spatial, musical, visual recognition
- Four Lobes
 - Occipital – vision – if you get hit at the back of the head you'll see stars
 - Parietal – somatosensory – Pain (heat)
 - Temporal – Auditory – hearing
 - Frontal – Movement, executive control system – Decision making





Lecture 10:
January 29th, 2014

IClicker:

1. Zayed was walking down a dark street when he heard a car backfire. His heart started to race and he began to perspire in response to this sudden, startling noise. Which division of nervous system is responsible for his physical reactions? **A. Sympathetic Nervous system**
2. Which division of the nervous system is necessary if you need to stand up or scratch your nose? **D. Somatic**

i. Autonomic - heart rate, heart beat

Right Brain/ Left Brain

- Left eye = Right hemisphere
- Right eye = Left hemisphere
 - Right eye - Left half of the brain is language

The Endocrine System: Glands and Hormones

- Hormones - chemical messengers in the bloodstream
 - Pulsatile release by endocrine glands
 - Negative feedback system
- Endocrine glands
 - Pituitary - “master gland”, growth hormone
 - Thyroid - metabolic rate
 - Adrenal - salt and carbohydrate metabolism

- Pancreas – sugar metabolism
- Gonads – Sex hormones

Genes and Behaviour: Behavioural Genetics

- Behavioural genetics = the study of the influence of genetic factors on behavioural traits
- Chromosomes – strands of DNA carrying genetic information
 - Human cells contain 46 chromosomes in pairs (sex –cell – 23 single)
 - Each chromosome – thousands of genes, also in pairs
- Dominant (get from your mom)
- Recessive (both parents must have blue eyes)
- Homozygous (sexually the same)
- Heterozygous (sexually different – has differences)

Research Methods in Behavioural Genetics

- Family studies – does it run in the family?
 - If violence genetic? – Yes
- Twin studies – compare resemblance of identical (monozygotic) and fraternal (dizygotic) twins on a trait
- Adoption studies – examine resemblance between adopted children and their biological and adoptive parents

Modern Approaches to the Nature vs. Nurture Debate

- Molecular Genetics: the study of the biochemical bases of genetic inheritance
 - Genetic mapping: locating specific genes
 - Human Genome Project
- Behavioural Genetics
 - Interactionist model
 - Richard Rose “We inherit dispositions, not destinies”
- Epigenetics

Lecture 11:
January 31, 2014

IClicker:

Left side of the brain deals with language

Imagine that a picture of a spoon is briefly flashed in the left visual field of a individual with a severed corpus callosum. At the same time, a picture of a cup is briefly flashed in the right visual field. Based on your understanding of work with split – brain patients, what could they draw with their left hand? **C. Spoon**

Evolutionary Psychology: Behaviour in Terms of Adaptive Significance

- Based on Darwin’s ideas of natural selection
 - Reproductive success key
- Adaptations – behavioural as well as physical
 - Fight – flight response

- Taste Preferences
- Parental investment and mating preferences

Biological reality

MALES: Reproduction involves minimal investment of time, energy, and risk

FEMALES: Reproduction involves sustain investment of time, energy, risk

Evolutionary significance

MALES: maximize reproductive success by seeking more sexual partners with high reproductive potential

FEMALES: Maximize reproductive success by seeking partners willing to invest material resources in your offspring

Behavioural outcomes

MALES: more interest in uncommitted sex, greater number of sex partners

FEMALES: more likely to take care of their children

Lecture 12:

February 3, 2014

Midterm Review One

Details:

- Wednesday February 5 in class
- 40 questions
- Chapters 1, 2, 3 and Appendix B

IClicker Questions:

1. Which of the following was an important reason why structuralism ended as a dominant school of psychology? **A. Introspection was a highly subjective method of analyzing consciousness**
2. With which of the following statements would a behaviourist agree? **A. Psychology should be the science of observable behavior**
3. Dr. Envoy does research that has examined the behavior of individuals when they are in groups, as well as when they are alone. She has found that people tend to conform to the opinion of dominant person within a group, and that this conforming behavior is much different than the behavior that would occur if the individual were alone. Based on this information, which psychologist is Dr. Envoy? **A. Social Psychology**
4. Ling answered a series of written questions that asked about her attitudes and opinions on a number of current issues. What s this method of data collection called? **A. A questionnaire**
5. Jack believes that patrons in his bar will be more likely to leave a tip jar already has some money in it. To test this belief, he has the tip jar empty about half the time when a customer approaches the bar; the rest of the time he ensures there is at least 5 dollars in the jar when a customer approaches. In Jack's experiment, which is the control group? **A. The patrons who see an**

empty tip jar

6. There appears to be a correlation between efficiency and satisfaction, such that the **less** time required to make a decision, the **greater** the satisfaction of the group members. Which of the following correlation coefficients would reflect this relationship? **D. -0.79 (one goes up the other goes down)**
7. Dr. Hackle has found that no matter how students score on the first midterm, all the students in her class tend to score between 75 percent and 80 percent on her final exam. Which of the following values would best represent the correlation between the grades? **D. Near 0 (no correlation)**
8. Of the following, which correlation coefficient indicates the weakest relationship between the two variables being measured? **B. +0.01 (correlation coefficient -0.01 to +0.01)**
9. Which brain structure appears to play an active role in integrating sensory information? **A. Thalamus – Parietal Lobe**
10. Because the speech centre is generally located in the left hemisphere of the brain, what would a split – brain patient be unable to describe? **A. An object seen in the left visual field**
11. Londra and Sondra are identical twins who have been raised together in the same home. Londra has developed a psychological disorder, but Sondra does not appear to have the same disorder. What does this suggest about the disorder if this pattern holds for other identical twins? **D. Environmental factors have more influence than genetic factors in this disorder**
12. In summarizing recent research in neuroscience, science writer Ronald Kotulak concluded which of the following periods to be critically important to an individual's brain development? **A. The first three years of life**

Chapter 4

Lecture 13

February 10th, 2014

Sensation and Perception

Sensation and Perception: The Distinction

- *Sensation*: stimulation of sense organs
- *Perception*: selection, organization, and interpretation of sensory input
- *Psychophysics*: the study of how physical stimuli are translated into psychological experience

Psychophysics: Basic Concepts

- Sensation begins with a detectable stimulus
- Fechner: The concept of the threshold
 - Absolute threshold: detected 50% of the time
 - Just noticeable difference (**JND**): smallest difference detectableWeber's law: size of JND proportional to size of initial stimulus

- Example: Pitch black and if someone lights a candle you'll notice a difference
 - Light, sound, weight, pressure
- **Threshold = 50%**

Psychophysics: Concepts and Issues

- Psychophysical Scaling: *Fechner's Law*
 - Larger and larger increases in stimulus intensity are required to produce JNDs in magnitude of sensation
- **Signal - Detection Theory**: detection of sensory information is influenced by two things:
 - 1. Noise in the system (irrelevant stimuli in the environment that elicit neural activity)
 - 2. Decision making processes
- **Subliminal Perception**: Existence vs. **practical effects** - not conscious of what you are doing, it just happens. Example: Ads attractive male drinking Coke if you do it too you would look good doing so
- **Sensory Adaptation**: decline in sensitivity
 - Adapt to a certain smell over time until you leave the room and you go back and smell it again

Actual Stimulus Condition

Hit	False Alarm	Response
Miss	Correct Rejection	

Vision: The Stimulus

- Light = electromagnetic radiation
 - Amplitude: Perception of **brightness** (really bright higher wave, low smaller)
 - Wavelength: perception of **colour**
 - Purity: **Mix** of wave lengths
 - Perception
 - Microsoft Word (colour)

The Eye: Converting Light into Neural Impulses

- The eye: housing and channeling
 - DRAW OUT THE EYE
- Components
 - Cornea: Where light enters the eye
 - Light enters through the cornea and makes an upside down image on the retina
 - Lens: focuses the light rays on the retina (glasses) -problems seeing could be because there is a defect in the lens
 - Iris: coloured ring of muscle, constricts or dilates via **amount of light**

- Pupil: regulates **amount of light**
- Saccades – eye movement
 - Remembering faces

The Retina: Extension of the CNS I

- *Retina*: absorbs light, processes **images**, and sends information to the brain
- *Optic Disk*: where the optic nerve leaves the eye/**blind spot** – nerve fibres leave the eye and send signals to the brain
- *Receptor cells*:
 - Rods: **black** and white/low light vision
 - Side vision
 - Rods outnumber Cones
 - Names are based on their shape
 - Cones: **colour** and daylight vision – can't/don't help see at night
 - See finer detail better
 - **FOVEA**: part at the center of the retina that only contains cones – helps you see fine details
 - **If you want to see fine detail, we tend to move it close to the center of the eye**
- Adaptation: becoming more or less
 - Adapting in the dark
 - Can't see in the dark but then adapt and start to see a little
- **Optic Nerve**: Sends signals from the eye to the brain
 - **Light leaves the optic Nerve and goes to the Optic Chiasm**
 - Optic Chiasm: Crosses over and projects to the opposite side of the brain
 - DRAW IT OUT (page 150)
- **LGN (lateral geniculate nucleus)** – leads to occipital lobe
- Occipital – Primary visual cortex– if you get hit at the back of the head you'll see stars

The Retina: Extension of the CNS II

- Information processing:
 - **Receptive field**
 - The collection of rod and cone receptors that funnel signals to a particular visual cell in the retina
 - **Lateral antagonism**
 - Neural activity in a cell opposes activity in surrounding cells
 - From the eye -> Neural impulses help send the light into the brain

Lecture 14
February 12, 2014

IClicker Questions:

1. Joan was sitting talking with some friends when she suddenly left the room to check on her baby. She was sure she heard little Emily cry out, but when she checked, Emily was sleeping peacefully. What would you call Joan's response based on signal detection theory? **B. Type 1 error**
2. Devin has contracted a very rare eye disease. The ophthalmologist has told him that he has sustained massive damage to his rods, but for the most part his cones have not been affected. Which of the following aspects of Devin's vision is likely to be affected? **B. Deficiency in Peripheral vision (Rod)**

The retina and Brian: Visual Information Processing

- Light > rods and cones > neural signals > bipolar cells > ganglion cells > optic chiasm > opposite half brain >
- MAIN PATHWAY: lateral geniculate nucleus (thalamus) > primary visual cortex (occipital lobe)
 - Magnocellular: Where (parietal lobe) **Motion (Dorsal Stream)**
 - Parvocellular: What (Temporal lobe) **Colour (Ventral Stream)**
- SECOND PATHWAY ORDER: superior colliculus > thalamus > primary visual cortex

Hubel and Wiesel:

- Microelectrode recording of axons in primary visual cortex of animals
- Discovered feature detectors: neurons that respond selectively to lines, edges, etc.
- Later Research: cells specific to faces in the temporal lobes of monkeys and humans
- **Feature Detectors:** neurons that respond selectively to specific features (direction)

Disorders:

- **Visual Agnosia:** inability to recognize objects
- **Prosopagnosia:** inability to recognize familiar faces

Theories of Colour Vision

- Trichromatic Theory – Young and Helmholtz (mid- 1800s)
 - Receptors for red, green, blue – colour mixing
- Opponent process theory – Hering (1878)
 - 3 pairs of antagonistic colours
 - Red/green, blue/yellow, black/white
- Contemporary explanations of colour vision include aspects of both the trichromatic and opponent process theories

- As predicted by trichromatic theory, there are three types of receptors for colour – short, medium and long

Perceiving Forms, Patterns, and Objects

- Reversible figures
- Perceptual sets
- Inattention blindness (money example)
- *Feature detection theory* – bottom-up processing (something in the environment – example – flash light) (**attention**) (something you already know – use to something)
- *From perception* – top-down processing (opposite direction – less light soon)
- Subjective contours
- **Gestalt psychologist**: the whole is more than the sum of its parts
 - Reversible figures and perceptual sets demonstrate that same visual stimulus can result in very different perceptions

Gestalt principles of perceptual organization

- *Proximity*: Elements that are close to one another tend to be grouped together
- *Closure*: Viewers tend to supply missing elements to close or complete a familiar figure
- *Similarity*: Elements that are similar tend to be grouped together
- *Implicitly*: Viewers tend to organize elements in the simplest way possible
- *Continuity*: Viewers tend to see elements in ways that produce smooth continuation
- *Distal and Proximal stimuli*: Brain thinks that other objects are different but they are actually the same thing
 - Example: tables

Lecture 15:

February 14, 2014

Depth and Distance Perception

- Binocular cues- clues from **both eyes** together
 - Retinal disparity
 - Convergence (**depth** and **distance**)
Need both eyes
- Monocular cues – clues from **a single eye**
 - Motion parallax
 - Accommodation
 - Pictorial depth cues (size)
One eye

Stability in the perceptual World: Perceptual Consistencies

- Perceptual consistencies – **stable** perceptions amid changing stimuli
 - Size
 - Shape
 - Brightness
 - Hue
 - Location in Space

Optical Illusions: The Power of Misleading Cues

- Optical illusions- discrepancy between visual appearance and physical reality
 - Ames Room: right corner seems to be bigger and left corner seems to be smaller but only because the walls are not equal
 - Even if we know what we are seeing is wrong we can not expect it because of our schema (what we are use to seeing)

IClicker Questions:

1. Petra looked directly into a very bright light and damaged her retina. The ophthalmologist has told her that she has sustained massive damage to her cones, but for the most part her rods have not been affected. What was affected? **C. colour vision**
2. Sai was at a football game, and even though people wearing green jackets were spread fairly evenly throughout the stands, he still perceived all the people in green jackets as a single group of visiting fans. Sai's perception is most consistent with which Gestalt principle? **B. Similarity**

Hearing: The Auditory System

- Stimulus = sound waves (vibrations of molecules travelling in air)
 - Amplitude (loudness)
 - Wavelength (pitch and frequency)
 - Purity (timbre)
- **Wavelength described in terms of frequency: measured in cycles per second (Hz)**
 - **Frequency increase = pitch increase**
- Amplitude is measure decibels (DB)

The Ear: Three Divisions

- External ear (pinna): collects sound
- Middle ear: the ossicles:
 - Hammer, anvil, stirrup
- Inner ear: the cochlea
 - Fluid-filled, coiled tunnel
 - Contains the hair cells, the auditory receptors
 - Lined up on the basilar membrane

The Auditory Pathway

- **Sound waves vibrate bones of the middle ear**
- Stirrup hits against the oval window of cochlea
- Sets the fluid inside in the motion
- Hair cells are stimulated with the movement of the basilar membrane
- Physical stimulation converted into neural impulses
- Sent through the thalamus to the auditory cortex (temporal lobes)

Theories of Hearing: Place or Frequency?

- Hermann von Helmholtz (1863)
 - Place Theory
Perception of pitch core responses to the place on our basilar membrane where vibration occurs
- Other researchers (Rutherford, 1886)
 - Frequency Theory
Perception of pitch core responses to the frequency on our basilar membrane at which vibrations occur
- Georg von Bekesy (1947)
 - Travelling wave Theory (conclusion of both)
- **Auditory Localization:** Cues from both ears help us determine where sounds are coming from

Lecture 16:

February 24, 2014

Skin Senses: Touch

- Physical stimuli = **mechanical (pressure), thermal (heat), and chemical energy impinging on the skin**
- Pathways: Sensory receptors > the spinal column > brainstem > cross to opposite side of brain > thalamus > somatosensory (parietal lobe)
- Temperature: free nerve endings in the skin
- Pain receptors: also free nerve endings
 - Two pain pathways: fast vs. slow
- C fibers are slow fibers (Healing)
- A delta fibers are the fast fibers (twist ankle and pain happens right away)
- Thalamus helps transmit signals of touch to the brain

The Chemical Senses: Taste

- Taste (gustation)
- Physical stimulus: soluble **chemical substances**
 - Receptor cells found in taste buds
- Pathways: Taste buds > neural impulse > thalamus > cortex
 - **Four primary tastes:** sweet, sour, bitter and salty
Umami – Fifth sense (savory)

- Taste: learned and social processes
- Taste buds line the trenches around tiny bumps on the tongue call papillae
- There are three types of papillae, which are distributed on the tongue
- The taste buds show slightly different sensitivities to the four basic tastes
- Taste is evolutionary- helps us survive

The Chemical Senses: Smell

- Smell (Olfaction)
- Physical Stimuli: substances carried in the air
 - Dissolved in fluid, the mucus in the nose
 - Olfactory receptors – olfactory cilia
- Pathways: Olfactory cilia > neural impulse > olfactory nerve > olfactory bulb (brain)
 - Does not go through the thalamus
- **Pheromones:** chemical messengers that are sent from one organism to another

Other Senses: Kinesthetic and Vestibular

- Kinesthesia: knowing the position of the various parts of the body
 - Receptors in joints/muscles
- Vestibular – equilibrium/balance
 - Semicircular canals

IClicker Questions

1. Denise was momentarily blinded when paparazzi snapped her picture using a blue flash. Following the flash, she saw spots for several minutes. What colour were the spots, based on the opponent-process theory of colour vision? **C. Yellow**
2. Catelin had had a slow throbbing pain in her ankle since she twisted it in-line skating last week. Where are these pain signals travelling? **A. Thin, unmyelinated C fibers**
3. Complete the following analogy: Hue is to pitch as brightness is to _____. **B. Loudness**

GO THROUGH PAGE 186

Chapter Five:

Lecture 17th

February 26, 2014

Variations in Consciousness

Narcolepsy: Sleep disorder

- Controllably falling asleep
- Miss wiring in the brain

Consciousness: Variations in Awareness and Control

- **Awareness of Internal and External Stimuli**
 - Always changing
 - External: smelling something and then all of a sudden you are hungry
 - Internal: Thinking about something example: if hungry (without a cue)
 - James – Stream of consciousness
- **Mind Wandering** – task unrelated thoughts (in class and start thinking about food and have nothing to do with the class)
 - Controlled and automatic processes
- Unconscious thought effects
- Consciousness and brain activity

The Electroencephalograph: A Physiological Index Of Consciousness

- **EEG – monitoring of brain electrical activity**
 - Figure out what is happening in the brain
- Brain Waves
 - Amplitude (height)
 - Frequency (cycles per second)
 - Beta – normal **waking** thought, **alert** problem solving – higher frequent
 - Alpha – deep relaxation, blank mind, meditation (slowing down brain activity)
 - Theta – Light sleep
 - Delta – Deep sleep (slow wave)

Biological Rhythms and Sleep

- Periodic fluctuations and physiological functioning - thought to be related to biological clock
- **Biological Rhythms**: If your rhythms are interrupted recovery can take a while and cause extra stress on your body
- For example:
 - Circadian Rhythms – 24 hr. biological cycles
 - Regulation of sleep/other body functions
 - Physiological pathway of the biological clock:

- Light levels > retina > suprachiasmatic nucleus of hypothalamus > pineal gland > secretion of melatonin
- Melatonin and circadian rhythms (regulates sleep and wake cycles)

Sleep/Waking Research

- Instruments:
 - Electroencephalograph – brain electrical activity
 - Electromyograph – muscle activity
 - Electrooculograph – eye movements
 Other bodily functions also observed

Sleep Stages: Cycling through Sleep

- **NON REM:** no rapid eye movements, little dreaming, vary EEG activity
- **Stage 1:** brief, transitional (1-7 min)
 - Alpha > theta
 - Hypnic Jerks
- **Stage 2:** Sleep spindles (10-25 min)
- **Stage 3 and 4:** slow-wave sleep (30 min)
- **REM:**
- **Stage 5:** REM, EEG similar to awake, vivid dreaming (initially a few minutes, progressively longer as cycle through the stages)
 - Developmental differences in REM sleep
 - Rapid eye movement
- **REM:** its deep sleep
 - It has rapid eye movements
 - EEG: high frequency and low amplitude
 - Has vivid dreaming.
 - Harder to wake up
- As the night progresses more time spent in REM and less in NONREM
- Infants spend more time in REM
- Sleeping Peels shorten REM sleep

The Neural Bases of Sleep

- Brain structures:
 - Ascending reticular activating systems
 - Ascending Reticular Activating system (ARAS): What in your body wakes you up (if something is work with that you would be constantly sleeping)
 - Pons, medulla, thalamus, hypothalamus, limbic system
- Neurotransmitters:
 - Acetylcholine and serotonin
 - Also norepinephrine, dopamine, and GABA

Why do We Sleep?

- Hypothesis 1:
 - Sleep evolved to conserve organisms' energy
- Hypothesis 2:
 - Immobilization during sleep is adaptive because it reduces danger
- Hypothesis 3:
 - Sleep helps animals to restore energy and other bodily resources

IClicker Questions:

1. What electroencephalograph pattern is associated with normal, waking, alert, states? **A. Beta**
2. When the first astronauts travel to Mars, they will be travelling for long periods of time with no external time cues. What changes would you predict for the circadian rhythms of those astronauts? **A. They would drift toward a slightly longer cycle**
3. Which hormone appears to play a key role in adjusting our biological clocks? **B. Melatonin**

Lecture 18:

Friday 28, 2014

Sleep Deprivation:

- Complete deprivation
 - 3 or 4 days max
- Partial deprivation or sleep restriction
 - Impaired attention, reaction time, coordination, and decision making
 - Accidents: Chernobyl, Exxon Valdez
- Selective deprivation
 - REM and slow-wave sleep: rebound effect
- Sleep loss and health (impacts)
- Rebound effect: deprived of REM sleep, your body is trying to catch up with what was missed
- During REM, memory consolidation occurs
 - Memories more prominent
- Jetlag: Flying Eastward is worse than flying Westward

Sleep Problems:

- Insomnia: difficulty falling (young) or staying (older) asleep
 - 34-35% of adults report problems with insomnia and about 15-17% have severe or frequent insomnia
- Narcolepsy: falling asleep uncontrollably – direct to REM
- Sleep Apnea
 - Reflexive gasping for air that awakens the sleeper
- Nightmares
 - Anxiety-arousing dreams – during REM (running away most common)

- Night Terrors
 - Intense arousal and panic – Non REM
- Somnambulism
 - Sleepwalking

FIGURE 5.9

Dreams and Dreaming: Content and Significance

- Dreams – mental experiences during sleep
 - Content usually familiar
 - Common themes
 - Waking life spillover – day residue
- Western vs. Non – Western interpretation
- “Lucid Dream” – you realize you are dreaming when it is happening and sometimes could have control over them
 - Theories
- Freud – Dreams are to deal with your unconscious needs
- Cartwright – Dreams are problem solving (solve life problems)
- Activation Synthesis – Dreams help us understand internal signals/burst of brain activity

Hypnosis: Altered State of Consciousness or Role Playing?

- Hypnosis – a systematic procedure that increases suggestibility
- Hypnotic susceptibility: individual differences
- Effects produced through hypnosis:
 - Anesthesia
 - Sensory distortions and hallucinations
 - Disinhibition
 - Posthypnotic suggestions and amnesia

Meditation

- Meditation – Practices that train attention to heighten awareness and bring mental processes under greater voluntary control
- Yoga, Zen, transcendental meditation™
 - Potential physiological benefits
 - Similar to effective relaxation procedures
- Focused attention vs. open monitoring
- Mindfulness meditation and CBT

Principal Abused Drugs and Their Effects

- Psychoactive Drugs: chemical substances that modify mental, emotional or behavioral functioning
- 6 Categories of psychoactive drugs
 - 1. Narcotics (opiates) – Pain relieving
 - 2. Sedatives – sleep inducing in drugs

- 3. Stimulants – increase in central nervous system activity (CNS) (waking you up)
- 4. Hallucinogens – distort sensory experience (see, hear or smell things that are not really there)
- 5. Cannabis
- 6. Alcohol
- Tolerance: decrease in responsiveness to a drug
 - Use to drinking after the first time therefore you need to drink more the next time around to get drunk
- Physical dependence: When you must continue to take a drug to avoid withdrawal

IClicker Questions:

1. Which of the following statements about dreams is NOT accurate? **D. Dreams occur only during REM sleep**
2. Alicia is taking a prescription drug to help treat her narcolepsy. She finds that when she takes the drug she feels extremely restless and irritable, and she loses her appetite. What has Alicia's physician likely prescribed? **A. Stimulant**

March 3, 2014

Lecture 18:

Chapter 12: Personality: Theory, Research, and Assessment

Defining Personality: Consistency and Distinctiveness

- Personality: An individual's unique set of consistent behavioral traits
- Personality Traits
 - Dispositions and dimensions
 - Occur in the same way in a variety of situations
- The Five – Factor Model – how factors are related
 - Extraversion – outgoing, positive, social
 - Neuroticism – anxious, hostile, insecure
 - Openness to experience – curious, flexible, imaginative
 - Agreeableness – trusting, cooperative
 - Conscientiousness – disciplined, organized, dependable

Psychodynamic Perspectives

- Freud's psychoanalytic theory – focuses on the unconscious
 - Structure of personality
 - ID** – Pleasure principle (Inner Child) – Primary – process thinking (Devil on shoulder)
 - Drive to do things you want to do
 - Underlies your urges to sleep, eat, sex

Ego – Reality Principle (**Decision Maker**) - Secondary – Process thinking

- Desires
- Guardian Angel
- To do the right thing

Superego – Morality (Don't do it) – Moral Imperatives

- Social standers to tell you what is right and wrong

- **ICEBURG**

- Levels of awareness

Conscious – (1) Contact with outside world

Unconscious –(3) Difficult to reflective –memories and thoughts that are deep below the surface but still effect your behavior (how childhood experience shaped you)

Preconscious (2) – just under the surface (between the unconscious and conscious)

- Conflict

Sex and aggression, Anxiety, Defense Mechanisms

Defense Mechanisms: (Table 12.1)

- Unconscious reaction to protect yourself from unpleasant emotions, such as anxiety and guilt
- Repression – keeping distressing thoughts buried in the unconscious
- Projection – attributing your thoughts to another
- Displacement – diverting emotional feelings (anger) to another source
- Reaction Formation – behaving opposite to your own feelings
- Regression – acting childish
- Rationalization - creating an excuse to justify bad behavior
- Identification - boosting your self-esteem by forming an imaginary or real alliance with a person or group (often famous) (status)
- Sublimation – unconscious impulses are channeled into socially acceptable behaviors (anger issues taking up boxing)

Freud on Development: Psychosexual Stages – periods that leave the mark on adults personality

- Sexual = Physical Pleasure
- Psychosexual stages
 - **Oral** –(0-1) – **Mouth** (sucking, biting)–Weaning (from breast or bottle)
 - **Anal** – (2-3) – **Anus** (expelling or retaining feces –Toilet training)
 - **Phallic** – (4-5) – **Genitals** (masturbating)
 - **Latency** – (6-12) – **None** (sexually repressed)
 - **Genital** – (Puberty onward) **Genitals** (being sexually intimate)
 - Fixation** = excessive gratification or frustrations
 - Failure to move onto another stage

- Oedipal Complex: attracted to the opposite sex parent and hostile to the same sex parent (boys being attracted to their mother and hostile to their father)

Other Psychodynamic Theorists

- Carl Jung
 - Proposed that the entire human race shares a collective unconscious, which exists in the deepest reaches of everyone's awareness.
 - He saw collective unconscious as storehouse hidden ancestral memories called ARCHETYPES.
 - He believed that important cultural symbols emerge from these universal archetypes (circle)
 - Analytical Psychology
 - Personal and **COLLECTIVE** unconscious
 - Archetypes – emotionally charged images that have an universal meaning
 - INTROVERSION / EXTROVERSION**
- Alfred Adler
 - INDIVIDUAL Psychology
 - Striving for **superiority**
 - If you can't reach superiority, you turn to compensation to show you are just as good as everyone
 - Compensation – showing off
 - Inferiority complex** / overcompensation
 - Birth order – 1st - always have to be perfect, 2nd - never noticed, 3rd – the baby of the family

Evaluating Psychodynamic Perspectives

- Pros: insights regarding
 - The unconscious
 - The role of internal conflict – regret (not having done something)
 - The importance of early childhood experiences
- Cons
 - Poor testability
 - Inadequate empirical base
 - Sexist views

March 5, 2014

Lecture 19:

Clicker:

1. Graham lost a lot of money on some bad investments in the stock market. Consequently he had to trade his expensive luxury car for smaller, more economical car. He has been telling all his coworkers that he made the switch to do his part to stop pollution. According to Freud, which defence mechanism is Graham using? **B. Rationalization**

Behavioral Perspectives

- Behaviourist view: individual's collection of response tendencies
- Skinner's views
 - Conditioning and response tendencies
 - Environmental determinism
 - NO Free Will (rejected free will)
 - Learn from experience
 - **According to Skinner:** people's characteristic response tendencies are shaped by reinforcements and other consequences that follow it
 - **Skinner:** Highly deterministic view that the environment and that freedom govern behavior is an illusion.
 - **Bandura** argues that integral mental events, external environmental contingencies, and overt behavior all influence one another
- Bandura's View
 - Focused on Social Learning Theory
 - Can learn by observing
 - Cognitive processes and reciprocal determinism
 - Observational learning – Models
 - Use models to help us to know how we will behave
 - Self – efficacy
 - Belief about your own ability to preform a task
- Mischel's Views
 - The person – situation controversy
 - The interactional approach
 - Environment

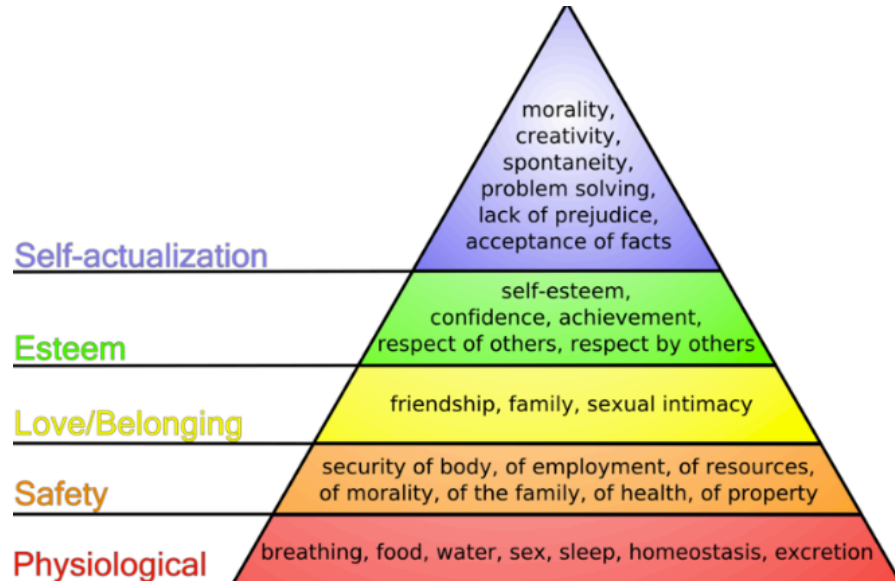
Evaluating Behavioural Perspectives

- Pros
 - Based on rigorous research
 - Insights into effects of learning and environmental factors
- Cons
 - Over – dependence on animal research
 - Fragmented view of personality
 - Dehumanizing views

Humanistic Perspectives

- Humanism – emphasizes human qualities (what we can do as humans)
 - Least deterministic approach
- Carl Rogers
 - Person – centred Theory
 - Self – concept
 - Conditional (not as accepting)/unconditional (accepting all the time) positive regard

- Incongruence (difference between your self concept and your actual experience) and anxiety
 - 12.9 in the textbook
 - Abraham Maslow
 - Self - actualization theory
 - **Hierarchy of needs** - arrangement of needs with basic survival at the bottom
- As you move up it is more desires than needs



The healthy personality
 Focused on the positive

- Self - concept vs. Actual experience
- **Congruence:** self - concept meshes well with actual experience (some incongruence is probably unavoidable)
- **Incongruence:** self - concept does not mesh well with actual experience
- **Maslow:** motivational hierarchy: Self - actualization is our highest need
 - Need for us to fulfill our potential

Evaluating Humanistic Perspectives

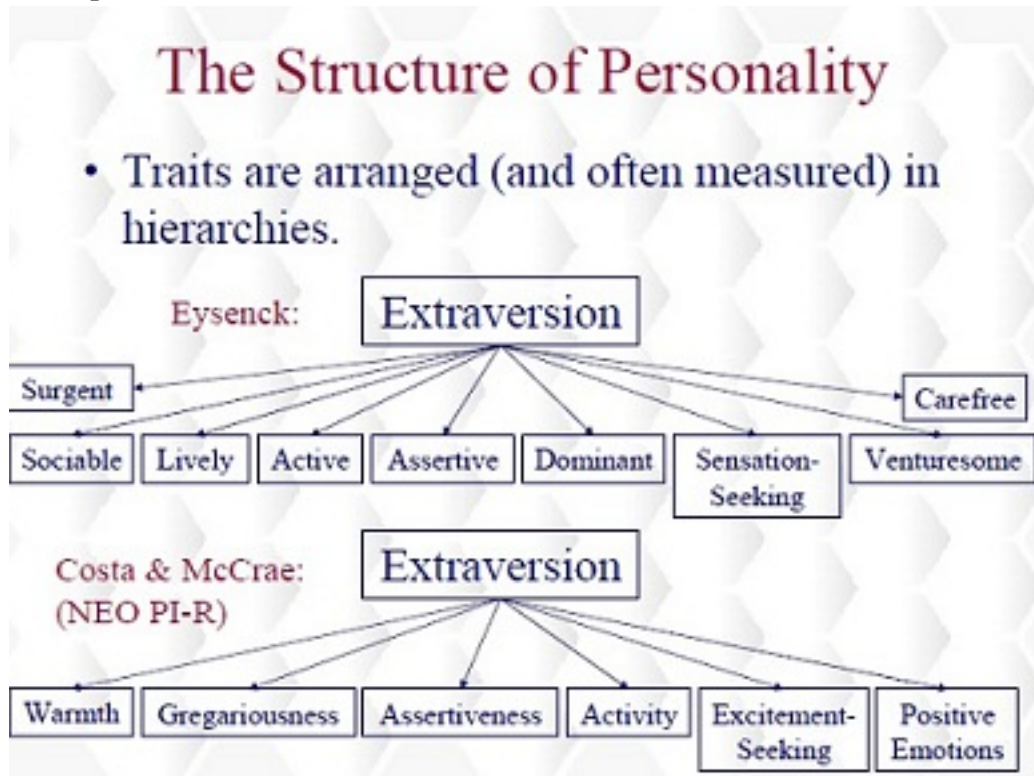
- Credited with highlighting the importance of a person's subjective view of reality
- Applauded for focusing attention on the issue of what constitutes a healthy personality
- Criticized for:
 - Lacking a strong research base
 - Poor testability
 - An overly optimistic view of human nature

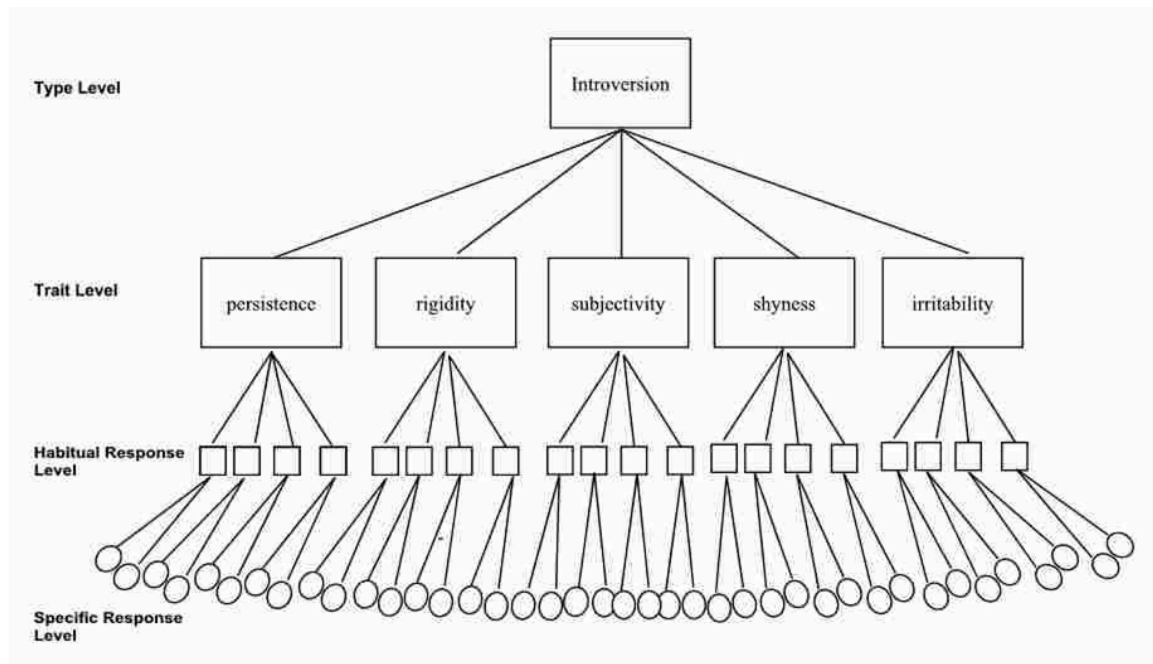
March 7th, 2014
Lecture 20

Biological Perspectives

- Eysenk's Theory
 - 3 higher-order traits
 - Extraversion, neuroticism, and psychoticism
Determined by genes
- Twin studies
 - Novelty seeking and genetics
New experiences
Two twins taking apart at birth – identical twins are similar to each other
Identical twins are more genetically related than fraternal
- The evolutionary approach
 - Traits conducive to reproductive fitness
 - Does it help you in the environment
 - Does it help you in having children – genes get passed along

Examples:





Heritability: general trait. Estimates attributes to the shared environment

- Big Five traits
 - Extraversion
 - Neuroticism
 - Agreeableness
 - Conscientiousness
 - Openness to experience

Evaluating Biological Perspectives

- Pros
 - Convincing evidence for genetic influence
- Cons
 - Conceptual problems with heritability estimates
 - Artificial carving apart of nature and nurture
 - No comprehensive biological theory

Contemporary Empirical Approaches to Personality Traits

- Narcissism – self love –needing attention
- Terror Management – there is a reason about the things that we do. (Death)
 - Applications
- Markus and Kitayama
 - Independence vs. interdependence (Collectivism)
 - Culture

Individualism: Putting yourself before others

Collectivism: Putting a group goals before yourself

GO TO PAGE 578

IClicker Questions

1. Assume that personality researchers have isolated a new trait they called "prajna". If these researchers report that fraternal twins reared together are more similar in this trait than identical twins reared apart, what would it indicate? **C. Environment has a larger impact**
2. Which of the following is NOT a criticism of the behavioural approach to personality? **C. Using extensive**

Chapter 14:

The Medical Model Applied to Abnormal Behaviour:

- Abnormal behavior should be treated as a disease
 - Criticized – puts labels on people
Misconception about other people (stereotypes)
- **Diagnosis:** distinguishing one illness from another
- **Etiology:** the cause of an illness
- **Prognosis:** Prediction about the outcome of the illness

Criteria Of Abnormal Behaviour:

- Deviance: when behavior is different from what you see in society
 - Transvestic Fetishism
Men dressing like a women
- Maladaptive behavior: When people have behavior that interfere with their everyday life and they don't correct it
 - Cocaine addict
Even when they have not money or a job they still continue to take the drugs
- Personal Distress: Someone reports that they have an abnormal amount of pain and suffering
 - Anxiety and depression
- All three together could lead to an abnormal label or an extreme case of any of the three

Stereotypes of Psychological Disorders:

- *Incurable:* with the right treatment, people can move on and live normal lives
- People with psychological Disorders are often violent and dangerous
 - No relationship between disorders and violence
Over reported by the media
- People with psychological Disorders behave in bizarre ways and are very different than normal people
 - Only true with very severe disorders

Psychodiagnosis:

- Classification of disorders
- DSM (DSM-IV-TR) – classification manual
 - 5 different axis
 - Clinical Syndromes
 - Personality Disorders or Mental Retardation
 - General Medical Conditions
 - Psychosocial and environmental problems
 - Global Assessment functioning scale
 - Categorical
- *Comorbidity*: Coexistence of two or more disorders
 - Common with mental illness
- *Epidemiology*: study of the distribution of mental disorders of a population
- *Prevalence*: Percentage of a population that exhibits a disorder during a specified period of time

Anxiety

- Disorders marks by feelings of excessive apprehension and anxiety

Generalized Anxiety Disorder

- High levels of anxiety not tied to a specific threat

Phobic Disorder

- Persistent and irrational fear of an object or situation that presents no realistic danger
 - Example: Heights and Spiders

Panic Disorder

- Recurrent attacks of overwhelming anxiety that usually occur suddenly and expectantly
 - Agoraphobia: Fear of going out to public places

Obsessive Compulsive Disorder

- Persistent uncontrollable intrusions of unwanted thoughts (obsessions) and urges to engage in senseless rituals
 - Example: Have to wash there hands all the time (OCD)

Post-traumatic Stress Disorder (PTSD)

- Traumatic events
- Often leads to flash backs of the event

Etiology (Case) Of Anxiety Disorders

- Biological factors
 - Temperament – shy and timid are general more likely to be anxious
 - Anxiety – Some people are more susceptible to the feeling of anxiety which case them to feel more anxious (spiral)
 - GABA – neurotransmitter that is linked to anxiety
- Conditioning and Learning
 - Acquired through classical conditioning and maintained through operant conditioning
 - As a child an avalanche fell on that person and now as an adult they are scared of snow

- Cognitive Factors
 - Misinterpret harmless situation as threatening
 - Focus excessive attention on potential threats
 - Selectively recall information that seems threatening
- Stress
 - High stress situation can tend to make anxiety worse

Wed. March 19

Clinical Syndromes: Dissociative Disorders

- People lose contact with portions of their consciousness or memory, resulting in disruptions in their self of identity
 - Loss sense of reality
- Dissociative Amnesia – lose memory in a traumatic event
 - Unrealistic
- Dissociative Fugue – lose a large part of your life
 - Forgetting people like family and tying shoes
- Dissociative identity disorder – multiple personality disorder
 - Two or more largely complete and usually very different personalities
 - Etiology
 - Excessive stress
 - Fanaticize
 - Severe emotional trauma during childhood
 - Abuse
 - Controversy

Clinical Syndromes: Mood Disorders

- Episodic – tend to come and go (happen in episodes)
- Major depressive disorder
 - Persistent feels of sadness and despair
 - Loss of interest in previous sources of pleasure
 - *Dysthymic disorder* – chronic depression (all the time) but not severe enough to diagnose as major depression
 - Loss desire to do anything
 - Example: watching children open presents, too stressed to do so
 - *Anhedonia*: an inability to experience pleasure
 - Most depression happens before the age of 40
 - Around 10% of Canadians experience depression at some point in their lives
 - Women are twice as likely to become depressed than men
 - Greater stress and adversity (victims of harassment)
- Bipolar disorder (manic – depressive disorder)
 - Manic: happy
 - Depressive: depressed

- *Seasonal Affective disorder: (SAD)* depression that follows a seasonal pattern
 - Changes in the winter
- *Postpartum Depression:* What women experience after they have children
- Cyclothymic disorder
- Etiology
 - Genetic vulnerability
 - Neurochemical Factors
 - Cognitive factors
 - Hormonal
 - Dispositional
 - Interpersonal roots
 - Concussions
- Manic
 - Emotional
 - Cognitive
 - Motor
- Suicide
 - 1. Take suicidal talk seriously
 - 2. Provide empathy and social support
 - 3. Identify and clarify the crucial problem
 - 4. Do not promise to keep someone's suicidal ideation secret
 - 5. In an acute crisis, do not leave a suicidal person alone
 - 6. Encourage professional consultation
 - Women tend to attempt more often (3 times)
 - Men are more successful (4 times)
 - 90% of people that commit suicide suffer from a psychological disorder – most often a mood disorder
- Twins
 - Identical twins 100%
 - Fraternal twins 50%
 - Moods are highly genetic
- Interpersonal Factors in depression
 - Poor social skills
 - Acquire fewer reinforce, such as good friends, top jobs
 - Court rejection because of irritability, pessimism
 - Gravitate to people who confirm negative Self-view
 - Increase in vulnerability

Personality Disorders

- A class of disorders marked by extreme inflexible personality traits which case impaired social functioning
- Anxious – fearful cluster

- Avoidant, dependent, obsessive – compulsive
- Dramatic – impulsive cluster
 - Histrionic, narcissistic, borderline, antisocial
- Odd-eccentric cluster
 - Schizoid, schizotypal, paranoid
- Etiology
 - Genetic predispositions, inadequate socialization in dysfunctional families

Anti-social Personality Disorders

- Reject social norms

Disorders to Childhood

- Depression
- Post Traumatic Stress Disorder
- Obsessive compulsive Disorder
- Attention Deficit Hyperactivity Disorder
- Pervasive Developmental Disorders (PDD)
 - 1. Autism disorder
 - Impairment in social interaction
 - Impairment in communication
 - Repetitive behaviours
 - 2. Asperger's Disorder
 - 3. PDD not otherwise specified

March 21, 2014

Psychological Disorders and the Law

- Insanity
 - Not criminally responsible on account for mental disorders
 - M'Naghten rule – insanity exists when a metal makes a person unable to distinguish right from wrong
- Involuntary commitment
 - Danger to self
 - Danger to others
 - In need of treatment

I Clicker Questions

1. Dr. Samuel Cartwright's diagnosis of drapetomania, which purported to explain why slaves sought freedom, exemplifies: **B. How notions of mental**
2. Which of the following is NOT used by clinical psychologists in arriving at a diagnosis of a new patient? **C. Blood Tests**

Clinical Syndromes: Schizophrenia

- Generally happens before the age of 30

- Neurotransmitter – dopamine
- General symptoms
 - Delusions and irrational thought
 - False beliefs that are maintained even though they are out of touch with reality
 - Deterioration of adaptive behavior (normal behavior)
 - Hallucinations
 - Sensory perceptions that occur in the absence of real external stimuli
 - Disturbed emotions
 - Lack of emotions
 - Can't express emotions
- Prognostic Factors
 - Supporting families and friends
 - Coop

Subtyping of Schizophrenia

- 4 subtypes
 - Paranoid type – delusions of persecution (someone is out to get you)
 - Catatonic type – doing nothing – no motor control
 - Disorganized type – Have no direction – no adapted behavior (can't pick up on social cues)
 - Undifferentiated type – doesn't fit all that are above
- New model for classification
 - Positive vs. negative symptoms
 - Positive: more of something (in addition) – Hallucination
 - Negative: absence (less) of something – lack of emotion
 - Dimensional classification

Etiology of Schizophrenia

- Genetic vulnerability
- Neurochemical factors
- Structural abnormalities of the brain
- The neurodevelopmental hypothesis – something happened to the brain when a woman is pregnant
 - Viral
- Expressed emotion
- Precipitating stress
 - eg. Death in the family
- Dopamine Hypothesis
- Neurodevelopment Hypothesis

Culture and Pathology

- Cultural variations
 - Delusions in schizophrenia

- Symptoms of depression
- Culture bound disorders
 - Abnormal syndromes found only in a few cultural groups
- Eating disorders – countries with a lot of food vs. countries with one meal days
 - Only seen in Western Cultures (until recently)

Chapter 15

March 24, 2014

Treatment of Psychological Disorders

Types of Treatment

- Psychotherapy
 - Insight therapies
 - “Talk therapy”
 - Came from (drove) Freud theory (Psychoanalysis)
 - Examples: marriage and family therapy
 - Behaviour therapies
 - Changing overt behavior
 - Learning
 - Maladaptive habits – drug use and phobias
 - Biomedical Therapies
 - Changing Biological functioning interventions
 - Example – shock therapy and medications

Who Seeks Treatment?

- Most common presenting problems
 - Anxiety and Depression
- Long delays till treatment is sought
- Half of those who seek mental health services do not have a diagnosable problems
- Stigmatization

Who Provides Treatment?

- Clinical Psychologists (PH.D. and PSY.D.)
- Counseling psychologists
- Psychotherapists
- Psychological associates (M.A)
- Psychiatrists (Ph. D) = Can decide a medication
- Clinical Social Workers
- Psychiatric Nurses
- Counselors

Insight Therapies: Psychoanalysis

- Sigmund Freud and followers
- **Psychoanalysis:** insight therapy that emphasizes the recovery of unconscious conflicts, motives, and defenses through techniques of free associations and transference
 - Left over from childhood
 - Id, Ego, Superego
 - GOAL: discover unresolved unconscious conflicts
 - Free association
 - Dream analysis – unconscious conflicts coming out through dreams
 - Interpretation
 - Resistance and transference
 - **Resistance:** largely unconscious defensive manoeuvres
 - Not accepting of their problems (denial)
 - **Transference:** when clients unconsciously start relating to their therapist in ways that mimic critical relationships in their lives

Insight Therapies: Client Centered Therapy

- Save zone – clients can come talk about their problems and not be defensive
- Carl Rogers
 - GOAL: restructure self – concept to better correspond to reality
 - Self concept and gaining self confidence and finding out who they really are
 - Therapeutic climate
 - The clients and therapists are equal (work together)
 - Genuineness - not being fake
 - Unconditional Positive regard – not being judgmental
 - Empathy – being able to understand the world from the clients point of view

Therapy: Groups, Couples, and Families

- Group therapy – solutions
 - Treating different people at once
 - Participants' Roles
 - Advantages
 - Cheap
 - Format: Therapy
 - The participants in the group should be similar (example: age or problems so they can relate to each other)
 - Therapist have a very small role

- Couples Therapy
 - Focus = Relationship
- Family Therapy
 - Focus = Family

March 26, 2014

Behaviour Therapies

- Involve the application of learning principles to direct effects to change maladaptive behaviors
 - Behaviour is a product of learning but can be unlearned
 - B.F. Skinner and colleagues
 - GOAL: unlearning maladaptive behavior and learning adaptive ones
 - Systematic Desensitization – Joseph Wolpe
 - Behaviour therapy that is used to reduce phobias through counter conditioning
 - Being scared to go into any elevator
 - Exposure Therapy – clients are confronted with situations they fear to teach them they are harmless
 - Example snakes
- Classical Conditioning
Anxiety Hierarchy
- Scared of Spiders until they become more comfortable
 - Confront their worst fears
 - Paradoxical intervention - bring out what people are trying to avoid
 - Breaking the conditioned response
- Aversion Therapy

Aversive stimulus is paired with a stimulus that elicits an undesirable response

Example: Alcohol = with positive actions

 - Alcoholism, sexual deviance, smoking, etc.
 - Drink the alcohol = being really sick and not want it anymore (vomiting)
- Controversial
- Social Skills Training

Opportunities to get work, but do not end up calling to get the job

 - Modeling
 - Behavioural Rehearsal

March 28, 2014

Cognitive – Behavioral Therapy

- GOAL: to change the way clients think
 - Self-instructional training
 - Detect and recognize negative thoughts
 - Reality testing
 - Kinship with behavior therapy
- Aaron Beck
 - Cognitive therapy
- Albert Ellis
 - Rational – emotive therapy
- Donald Meichenbaum
 - Canadian = helped create cognitive – behavioral therapy (big impact)
- CBT: alert peoples thoughts and feelings
 - Usual comes from an elder in your childhood judging you
 - 1. Be aware of the things we say to ourselves
 - 2. Externalize the voice and look at the relationship with it
- Cognitive Distortions

March 31, 2014

Final Exam

- 90 question
 - 75 spread over all chapters
 - 15 additional questions on Chapter 14 and 15
- 2 hours

Biomedical Therapies: Psych pharmacotherapy

- Physiology
- Altering in body functioning
- Antianxiety – Valium, Xanax, Buspar
- Antipsychotic – Thorazine, Mellaril, Haldol
 - Tardive Dyskinesia
 - Clozapine
- Antidepressant:
 - Tricyclics – Elavil , Tofranil
 - MAO inhibitors (MAOIs) – Nardil
 - Selective serotonin reuptake inhibitors (SSRIs) – Prozac, Paxil, ZoloftDepression
- Mood Stabilizers
 - Lithium
 - Valproic Acid
- The drugs = people often think the drug works but then they go into a relaps

- FIGURE 15.10 (270)

Biomedical Therapies

- Electroconvulsive therapy (ECT)
 - Electroshocks to the brain
 - Used for depression
 - Risks: memory lose
- Deep Brain Stimulation technique (DBS)
 - Stimulate the brain
- Transcranial magnetic stimulation (TMS)
 - Uses a magnet to increase or decrease activity in certain regions of the brain
 - Commonly been used to treat depression
 - Non invasive

Page 724

- Dorothea Dix – metal hospitals (help charge)

Current Trends and Issues in Treatment

- Empirically validated treatments
- Blending approaches to treatment
- Multicultural sensitivity
- Deinstitutionalization
 - Revolving door problem
 - Homelessness

Deinstitutionalization:

- Idea of transferring someone in a metal hospital back into society
- Leads to homelessness

April 2, 2014

Iclicker:

1. Murray is a bright student, but he procrastinates. He puts off writing term papers and gets incompletes, which eventually become F's. Murray ____ Therapist helps him realize that he has the power to choose his own destiny and must assume responsibility for his life predicaments. The therapist helps him think about his procrastination and his life goals. **D. Cognitive**