## Theme: Getting Started

### Lecture 2- May 4th

Biological Aspect

- **Pre-frontal cortex –** being able to predict what's in your best interest, the part that helps you do the right thing, not the easy thing
- It was believed that virtues, values and ethics could not be studied scientifically
- **Orbital-Frontal cortex**- allows you to understand society and social behaviors
- Phineas Gage
    - Pillar of the community
    - Family man
    - Transformed into a jerk
        - Could not maintain relationships, abandoned religion, developed certain "wrong" addictions
    - The reason why his personality changed was because his orbital-frontal lobe was taken out and thus his judgment on social norms was impaired

Psychological Aspect

- Personality traits
    - Interacting with character trait
    - Illustrates social aspect that comes with integrity
- The effect of peer pressure is great
    - The example of **three lines experiment** – 1/6 people know the right answer but choose to declare the wrong answer because the majority of their peers (5/6) believe that the wrong answer is actually the correct one.

### Lecture 3- May 7th

- You can't have mind without the brain, it's just interconnected

Biological

• Molecules; genes, neurotransmitters, receptors
• cells; neurons
• "gross"; macroscopic view of the brain

Molecular level of the brain

• It goes axon, synapse, dendrite; it's electrical, chemical, electrical
• cocaine increases the signal of dopamine in the brain

- increased release from pre-synaptic vesicles
- less re-uptake
- cocaine is making the axon impossible to re-uptake
- overstimulating their dendrites by using cocaine and blocking re-uptake
- the crash is homeostasis after using cocaine

Cells; Neurons

• Nucleus is a cluster of cell bodies

Evil Genius Eradicates Pleasure

• Molecular Level
  - Drown their brain with dopamine by using drugs; cocaine, heroine and that their pleasure never comes back
• Cellular level
  - Damage the VTA

**Theme: Psychology of Studying**

## Lecture 4- May 9th

• Sides are parietal lobes
• at the back is occipital lobe about vision
• temporal lobes are on the side

First cluster of strategies

• linking that info through other stuff..through bizarre or emotional, if it's boring than you won't be able to remember it that easily unless it was presented in an interesting way
  - organize the info in a story linking it to familiar tales or tunes; structure and familiar when it's like interesting
  - Association is dual coding where more than one sensory is used
  - richly coding is where you're using many different techniques to memorize it and then it's stored in different parts of the brain
• If the hippocampus is removed you can't form on going memories, no capacity for it. Forget things easily like after 5 seconds he won't remember them. Memories only from the past and not in the present, for Henry Molaison.
  - If things were showed repeatedly it would only get faster, but he won't remember doing it from the past after the brain parts were removed

## Lecture 5- May 11th

**What Exec's Do**

• Look after the big picture

• Management
    - Gives orders
    - Allegations of skill
    - Awareness  (monitor)
    - Goals
    - Evaluate
    - Course correction

What are Executive functions
• exerts control
• executive function implements the goal, you push yourself till you reach the goal which is bad after

• will power; decide what you're going after in life, and like enough working memory to control the facts, standard of awareness (OFC), sense of cause and effect, motivation and desire: judgement
• determination; persistence, attention
• Initiative; motives activate
• OFC - NA-V/A is like a loop
• When you're using the PFC it's metabolic since it's using the oxygen and the glucose, by taking a break and drinking something sugary could be beneficial. Waste buildup can cause your brain to fog up, and the blood excretes it and then the other parts of the body will excrete it entirely.
• Will power is an area where practice leads to an improvement
• if they have the will power to not eat the marshmallow, it's proof that they'll do well in the future

Amotivational Syndrome
• They just stop wanting to do whatever, you can get amotivation from prescribed medication

## Lecture 6th -May 14th

Ivan Pavlov
• Didn't see himself as a psychologist
• He's a physiologist instead
• Won nobel prize was for medicine not psychology

-Religion under soc, philosopher between psych and soc, anthro is like soc.
- Psychologist is always there to analyze, but math is always there it's just not recognized

Difference of Classical and Operant Conditioning
- Classical is about environmental cues, and operant is about consequences of action.
- US; Studying, UR; concentrates, Apple juice is coincidental to make her focus, CS; Juice, CR; concentrating
- UR and CR are usually the same, it's naturally the same

- For Pavlov: US; food, UR; saliva, CS; bell, CR; bell had the response of saliva from the dog

Consider...
- Loud music to be able to help her concentrate when studying, it's a condition stimulus
- In exam like situations when studying, study in an exam like area
- explicit is episodic and semantic
- implicit; ties in with classic condition, in tunes with the physiological cues

-different ways of describing how that aspect of memory

You can classic condition the heart rate and immune-function

Operant Vocabulary Moment
- Reward- Increases the likely hood of the behavior again
- Punishment- less likely for that behavior to occur again
    - 'Positive'- adding a foul smell would make the behavior to less likely occur, harsh tone of voice added displeasure

| | + | - |
|---|---|---|
| Reinforce reward | Getting a good mark | Computer does not fail |
| Punishment | Most disciplinary tactics | Not getting a good mark |
| | | |

- Reductioning reward of studying is negative reward

## Lecture 7- May 16th

**How info gets into the Brain**

Overview of the visual system
- The info goes into two places
- Crosses at the nasal axons and the lateral fibers do not cross

What does mapping mean
- The info stays in order
- a lot of cortex is linked to the genitals than to other parts of the body
- LGN has multiple layers, process info about color, motion and other types of info. Streams in parallel pathways
- Right LGN gets it from the left visual field, so it processes each half opposite and it's getting input from both eyes.

Which retinal areas are 'over represented?

- Peripheral Areas are under represented because you can only see the motion and you can't see the detail
- Fovea, is the area of the center of the vision where it has the most acute detail and it's over represented the most. It's in the center of the macula
- the info goes into the PVC from the LGN and then it starts to move towards the front of the brain.

Color perception

- color blind is in the eyeball where they don't have the gene, red or green or blue and yellow. It usually happens to guys since they only have one X chromosome. The girls are rare but it only happens if the father and grand father are color blind.

Beethoven percepted his music by putting all the familiar surroundings together

**Lecture 8- May 18, 2012**

| Sensory | Motor | Cognitive | Exec |
|---|---|---|---|
| - Vision, motion<br>- Hand eye coordination (involves motor as well)<br>- Sense of touch (propioception)<br>- Awareness | - Quick reactions<br>- Balance<br>- Muscle | -Tactical memorization | - Take a hit<br>- Creativity<br>- Persistence<br>- Love/Passion |

The intention to get over social biases

**Lecture 9- May 22, 2012**

• optic chiasma is right under the hypothalamus and it helps us tell between the light and dark
• Reticular formation runs under the hypothalamus, a cluster of over a 100 different nuclei that has to do with very basic functions, it usually involves sleep that's why you're conscious when you're asleep

- slow waves dreams are different from REM dreams, very vague impressions with no emotional context

- if you're REM deprived it leads to appetite
- People who don't dream, do go into REM sleep they just don't remember. People who do remember their dreams can dream it in various types. People who wake up for 15 mins after it's like an episodic memory.

**Theme: Psychology of Stress**

## Lecture 11- May 25, 2012

Characteristic of an individual involves on how we respond.

## Lecture 12- May 30, 2012

- ( Primary emotions slide) Primary emotions are the hard wired basics. Secondary are the elaborated exaggerations that's affected from cultures and stuff, it's a mixture of primary emotions
- Pre-frontal and orbito frontal, is intimately interconnected with the inner pathways
- emotion and memory is combined together- in order to extract the personal information, we have to draw on memories. Some emotions will tell your brain to tell you if it's interesting or personally significant then it's not worth remembering.
- amygdala is close to the optic nerve and it goes straight there with one synapse, have already activated reflexes to reflect to the situation

## Lecture 13- June 1, 2012

- Different nerves that carry parasympathetic and sympathetic, different neurotransmitters.
    - Each one suppresses each other

## Lecture 14- June 3rd, 2012

- The husband who is primary psychotic and then the normal one starts to become psychotic because they follow each other, but you can treat it separately.
- depression isn't a correlate of schizophrenia

## Lecture 15- June 6th, 2012

- Love is an emotional experience. Love drives pair bonding like the limbic system.

## Lecture 17- June 11, 2012

- Humans are herd animals and do not do well when separated from their community.
    - If you separate from their herd they'll show symptoms of being depressed and that they need to be back with their family to be themselves again
- Innate tendency to form bonds with human beings
- insecure attach can lead to depression

Suppose the parent is addicted to alcohol, which pattern

b) insecure-avoidant- Likely to sometimes be a good parent, if they're drinking sometimes.

c) **insecure- ambivalent-** Too drunk and it's always iffy because they're always drunk or sometimes they're okay, it's really iffy

## Lecture 18 - June 13, 2012

- Altruism might make the family more cohesive and it could help them even though it's a bad thing.
- kin selective altruism to do things that will benefit people who share our genes.

# Lecture 19- June 15, 2012

- Looking at anti-social behavior later
- Examples of antisocial behavior are aggression and prejudice
- Which of the following is considered socially inappropriate in Waterloo
    - a) defending yourself if attacked
    - **b) slugging someone because you are angry**- not socially appropriate
    - c) parent defends kid from a snarling dog
    - d) police forcing someone into a police car after arresting them
    - e) wrestlers slamming each other in the ring
- other options are aggressive but we pay money to view it or for people to do it for us.
- two types of aggression
    - Ones the socially appropriate aggression, where it's okay and done in a right way and time
    - socially inappropriate aggression where you're thrown in jail

<u>Aggression itself is not necessarily antisocial</u>

- context and forms of appropriate aggression
    - culturally defined
    - vary enormously
- socially inappropriate aggression is what is regarded as antisocial

Readings for handwriting; 47.1-2 & 45.4

Which part of the brain understands and applies social norms about violence
- a) prefrontal cortex
-b) occipital cortex
-c) hippocampus
**-d) orbitofrontal cortex**
-e) limbic system (especially the amygdala)

Let's talk about emotions
-Remember each primary emotion has a characteristic, meaning expression and response?
-Aggressive impulses are typical responses for
**-a) anger** d) Sadness
-b) joy e) Fear
-c) disgust
- Primary emotion: Surprise that's missing.

-From the emotion, comes the desire to act. What structure is key in formulating desire?
-a) prefrontal cortex
-b) occipital cortex
-c) hippocampus
-d) orbitofrontal cortex
-e) **limbic system (especially the amygdala)**-creates the subject of the feeling
-lizards have no prefrontal cortex, they're going to act on impulses from the amygdala

Which part of the brain in responsible for constraining those desires to comply with social norms?
**-a) prefrontal cortex**
-b) occipital cortex
-c) hippocampus
-d) orbitofrontal cortex
-e) limbic system (amygdala)

Hormones
- hypothalamus regulates every other hormone
- A guy with high-normal testosterone levels will be significantly more likely be aggressive- false
    -no he doesn't
    -If the testosterone is really low it's like docile
-Men who have committed violent crimes have higher testosterone levels, thus proving that high testosterone causes aggression- false
-committing aggression leads to an increase in testosterone

Which is a better predictor of violence?
-a) testosterone level
**-b) city they grew up in**
-if you grew up in detroit or toronto; detroit will have a higher level of testosterone

**Social learning and aggression**
<u>What about genes and evolutionary psychology?</u>
-Kin selection predicts we will be inclined to help genetically-related individuals
-In primates, clearly see bands of related individuals working together
-Working together against other bands
    -including systematic aggression
-The pattern of an affiliative, cooperative group becomes...the in-group (think of hs)
-Where there is an in-group, there's an out-group

Are all in-groups related?
- No
-The mechanisms of boding and the kin selection evolved (presumably) to promote passing on genes,
-These mechanisms get co-operate to form **pseudo kinship**

Rules for socially appropriate aggression differ toward out-groups
-empathy is less (to nil) toward out groups
-may be seen as not fully human
-not seen as having same rights-therefore fair play not required in resource competition
-here we see one of the roots of societal aggression-prejudice.

As we move on from the study of love and its consequences
know this is only a sampling of the field

## Lecture 20- June 18, 2012

- she sells sea shells by the sea shore in cursive letters
- Graphology- several different systems of analysis, each with its own emphasis, texts, training schools, traditions.
- Slants for 'she'
    - -right- open and sociable
    - -left- like to work behind the scenes
    - - slants left in right handed person -rebellious
    - -- no slant -logical, practical person
- Loops in the letter 'l'
-closed = tense or restricting self in some way
- open = spontaneous personality, find self expression easy

What else has followed a similar pattern?
-Phrenology
- Idea that shape of skull reveals strength of underlying brain functions
- Perceived as scientifically valid as very popular

Projective Tests
- The idea is that presented with an ambiguous stimulus, people will project there own thoughts and feelings into their interpretation
- Rorschach ink blots
- Thematic apperception test

Myers-Briggs Type Indicator
-Based on Carl Jung's categorical model of personality
-reflects back survey answers in general, positive terms
-wildly popular- probably more helpful as a conversation started than for predictive value

Art Therapy
-Valuable therapeutic modality
-Early on-
- strong emphasis on interpretation of symbolism
-didn't stand the test of scientific scrutiny well
- Now
-more emphasis on using art as form of expression
-understanding personal meaning
-great basis for exploring thoughts and feelings

# Lecture 20 - June 20, 2012

- How on Earth did our brains get like this?
    - at a species level or an individual level

-This is summarized at ontogeny recapitulates phylogeny (the study of how the species evolves over times)

- **step 1** - form a neural tube

-2 1/2 weeks
    -embryo is like a coin
    - one surface will become skin and nervous system
    -ridge forms in middle of this surface = future brain and spinal cord

-week 4
    -forms in to form a hollow tube, it's like a straw
    - The top of the tube comes your brain, the bottom part becomes your spinal cord
    - the vertebrae and skull develops over the brain, and the vertebrae induces the skull to form.

-**step 2** - rough out the basic shape of the brain to be
    -the top end of the tube grows 3 bulges; fore brain, midbrain and hindbrain
    - Some species stop at the 3 bump stage
    - Neural tube defects can't get through the developmental stages properly

- **Step 3**- making neurons and support cells
- 12 -20 weeks is a major "critical period" most neurons are generated 250,000 neurons/min. If you don't have the 3 bumps by this stage, you're not going to have a brain.

<u>Life is not easy for a new neuron</u>

**-it has 4 tasks**
    -1 - proliferate - the 12-20 week window
    -2 - differentiate - which of 150 types of neurons
    -3- migrate- find its way to exactly the right spot
    -4 - connect- send axon to exactly the right spot

-all the neurons get made on the tube and then find it's place after

-<u>How does the neuron move?</u>

-chemical messengers, they like to get information by smelling chemicals

-cells in our brain are not nerve cells they're helper cells. Helper cells create the chemical to get the neurons

- Those were at the cellular level

-Each bulde has its own destiny

-forebrain-becomes the cortex and a cluster of big nuclii beside the ventricles including the thalamus

-midbrain - a treasure chest of nuclii sandwiched between the brain stem and the cortex- including much of the limbic system

-hindbrain- brain stem, cerebellum and a few other things

**-step 4**

-regression, huge dying off of neurons, 70% in some areas, fine tuning and correcting mistakes, another critical period (implicated in attention deficit order or schizophrenia), if things go wrong in the next is mental retardation, the fine tuning step has less consequences

**-Step 5**

-Making the connections, growing axons and synapses, a lot of activity up to 2 years

## Lecture 22- June 22, 2012

- Process of Development

-The framework of development

-biology of the brain

-acted upon by social learning

-comes together to form the psychological processes

-personality, abilities/talents values, attachment

- The time frame of the process is where they remember their earliest memory at the age of 3 or 4. Memories that have been reinforced repeatedly.
- Many specific capacities like memory and consciousness are unfolding in the developing individual. Developmental psychology is the study of that unfolding.

-How is this area studied?

-a specific function is studied

-observation, experimentation, imaging

-normal sequence of development is mapped

-typically described as stages

-typically the order of ht estates is pretty consistent but rate my vary

-What factors likely alter the rate, which is environment (social and physical) and ability where identical twins are separated they'll walk within days after another

-in the summer they learn more quickly than in the winter

Erikson's social development

• Basic idea =

-certain cognitive/emotional abilities underlie social adaptation

-These progress as stages linked to certain ages

-failure to resolve each stage blocks further development

- ex) Young Adults intimacy vs isolation

Matching Game - Age 6 to Puberty

-trust vs mistrust; for infants

-identity vs inferiority; adolescence

-industry vs inferiority; was eriksons for like chores that are for the kids. If the parents always do it for them it's inferiority because the kids aren't learning to do it themselves.

Toddlers

-autonomy vs shame and doubt

- chart on pg 201

How accurate is Erikson's model
- Central ideas are solid but it's not quite linear like how he hoped. And the ages aren't quite specific

Piaget and cognition
• Studied the errors kids make to infer what capacities had not yet developed
    -eg) Irene and conservation
• 4 major stages
    -0-2 - sensory motor- object permanence
    -2-7ish - pre operational -uses symbols
    -7-11 - concrete operations - conservation
    -12+ - formal operations- logic
-How consistent do you reckon those stages are?
- Not a lot of variation, pretty consistent
-does everyone reach formal operations?
-Most of them do

Kolberg and moral development
• pre-conventional
    - punishment and reward
• conventional
•social rules
• post-conventional- principles

## Lecture 23- June 27, 2012

Thinking/Cognition
•"All the mental activities associated with thinking, knowing, remembering and communicating."
• "All processes by which the sensory input is transformed, reduced, elaborated, stored, recovered and used...even when they operate i
What makes psychology unique
•Two things that justify psychology as an independent discipline
•1) conclusions about behavior derived from scientific evidence
•2) Applications

Method
•system variation/measurement of differences in: individuals and situation.

Concepts
•Mental groupings of similar objects, events, ideas and people

Relational reasoning
•taxonomic, causal, temporal, functional, etc

Problem Solving
• Used when you wish to reach a goal, but the solution is not immediately obvious
•Generally conceived as having barriers or obstacles as solutions

Information processing model
• the process of solving a problem can be constructed as a sequence of steps
• Goal is to move as efficiently through solution space as possible
• Can be more than one solution

Methods of approaching problems
•Algorithmic- step by step procedures with a guaranteed solution, slow and frustrating
• Heuristics- a simple thinking strategy that often allows us to make judgements and solve problems efficiently. Usually speedier but more error prone than algorithm.
    - ex) rules of thumb, educated guess, intuitive judgements
• Insight- a sudden often novel realization of the solution to a problem (you don't strategies, it's just sudden)

Anagrams- Psychology
•Strategy based solutions
    •algorithmic- 907,200 permutations
    • heuristic- try frequent letter combos
Fixation
• Inability to see problem from a new perspective, by employing a different mental set
Confirmation bias
• Search for information that supports our preconceptions and to ignore or distort contradictory evidence
• 2-4-6

• Different types of ways to approach problems and that we're pretty advanced and that we have the ability to step back form the obvious and think about things in a new point of view.

Making judgements and decisions
• Often made under uncertain conditions

Counterfactual reasoning
• Mental simulation.imagination of hypothetical outcomes that would result from decisions
• Conscious, deliberate consideration of possibilities

Heuristics
•Much faster than detailed consideration of all possible outcomes but lack accuracy

•break down complex probability judgements

Decision Making

•To thrive one needs a proper trade off between heuristics and more in-depth thought
• Different situations warrant varying levels of each

## Lecture 25- July 4th, 2012

The Psychology of Decision Making

• The basic motivations are central to survival- hunger, thirst, temperature control, safety, sex and affiliation
• Motivation depends on context
• There are the natural stimulants of the reward pathway
• This pleasure in the satisfaction needs conditions us to behave adaptively
• What happens when multiple needs compete?
• Maslow proposed a hierarchy of needs
    - When you're okay with the current level, you'll move up to the next level until you're content with the results of that level.
• Hunger is about maintaining energy balance part of homeostasis
    - Hypothalamus

Remember the nuclii and tracts?

• The hypothalamus is composed of many nuclii
• Ventromedial Nucleus (VMN) regulates appetite
• It sends signals by nerves and hormones (orexin)
• Where does the VMN get its information?
    - All of the above (stomach- ghrelin increases, adipose tissue [fat stores]- leptin decreases, intestines - various hormones decreases, blood sugar- increases or decreases [hypothalamus detects the blood sugar, like some sensors])
• Other factors like sleep deprivation, stress, hot temperature also impact appetite like by suppressing it
• Where does the VMN send messages?
    - The amygdala and also the prefrontal cortex, there is info that goes there
• The result is remarkably tight regulation of weight. Each person has a set point. With healthy life style their VMN will maintain their weight in a narrow range.

## Lecture 26- July 6th, 2012

Games Theory

• Economics, mathematics, computer science, psychology

Origin of games theory

• Initially study of conflict
    - Product of the cold war
• Principles of economics

- assumes ‘players’ will act in self-interest to maximize ‘pay offs’ (think motivation)
- identifies ‘strategies’ (think algorithms)

• Many variations and theories - we will explore a handful that highlight psychological principles
• 12 games theorists have won nobel prizes for games theory in economics and mathematics but not psychology.
• which parts of the brain are active in the first scenario where you’re pulling the lever
- orbitofrontal -social norms and prefrontal- rational decisions
• Second scenario was the beefy guy by pushing him in front
- the limbic system will be more active
• www.comh.ca/antidepressant-skills/adult/index.cfm pg 19-38, module 51 for the third wild card.

Dividing the Take
• An example of sequential decisions game
• 50/50- do you take it? Most people would. 80/20 - equal. 99.99/0.1 - majority don’t take it

What is the rational strategy?
• The rational strategy is to always say yes because you’re always going to get something even if it’s a small amount

Let’s talk about spite
• opposite of altruism
• definitely part of human behavior
• adaptive to shape our social environment and to the people around us

The coordination game
• an example of simultaneous decisions
• the goal is to match the other player’s response
• draw the game table with pay offs
• tendency to converge on natural solutions in the absence of communication
- ‘Schelling point’ - Thomas Schelling

**Player 1**

player 2

| | **NYF** | **Fountain** |
|---|---|---|
| NYF | * | x |
| Fountain | x | * |

• Schelling identified that people would converge to natural points
• Are Schelling points culturally determined?

- Highly because of the symbolism, shared experience but it's low correlation. The result is the same whether they're the same culture or not. And that it was not a major factor.
- International law for peace negotiations

## Lecture 27- July 9th, 2012 (Mood Disorders- Wild Card)

Mood Disorders

• Symptoms of Disorder
    - Cross section of all four (feelings, cognitive thinking, behavioral. physiological (physical functioning of the body)

Psychological features of low mood cognitive features in depression

• Impaired concentration/attention/working memory
• Poor judgement
• Negative self-evaluation
• Preoccupation with loss and death
• Suicidal ideation
• (Delusions)

Psychological features of low mood behavioral features

• Withdrawal
• Reduced and slow speech
• Reduced and slow movement

Psychological Features

• Appetite increase or decrease
• Constipation- more serotonin in your gut than your head
• Sleep increase or decrease
• Low Energy
• Decrease immune function
• Change in activity increase or decrease
    - Psychomotor retardation
    - Agitation
• Decrease libido

Social Features of low mood

•There is one over-arching theme and it is role failures occur where you see a lot of cost and suffering of depression.

Can you think of an animal model for this syndrome?

• Slowed down
• Many organs systems suppressed
• Withdrawing
• more common in winter

• All of these are pointed to **hibernation**

Where is the problem?

• Prefrontal and limbic system, focusing mostly on the emotional emotions. Limbic system is the traditional answer and the prefrontal is where it starts.

Little bit of foreshadowing

• **Features of depression**
  - Sleep
  - Appetite
  - Sex
  - Anxiety
• **Functions of serotonin**
  - Sleep appetite
  - Sex
  - Caution

Psychological features of elevated mood (Mania)

•feelings
  - Elevated, euphoric, expansive, irritable grandiose, unstable
• Cognitive
  - Flight of ideas, distractible, goal directed, positive self evaluation, delusions

## Lecture 28- July 11, 2012 (Cognitive Behavioral Therapy)

• What might help Unipolar Depression?
  - Antidepressant medications aren't the best treatment for depression, it's just a gradual treatment 6 - 8 weeks treatment. Takes a while to kick in and that they only work if you keep on taking them.
  - Psychotherapy is the same as antidepressant medications. Both only for for 2/3 of the people who take it.
• What about Bipolar Depression?
  - Mood stabilizing medications..can be used for unipolar depression but it's not ideal.
  - Not a good idea to give them an anti-depressant because it makes them go into mania
• Two main psychotherapies currently
  - CBT- Cognitive behavioral therapy
  - IPT- interpersonal therapy

Therapeutic Stance in CBT

• Sharing expertise
• Collaborative
• Experimental
• Shoulder-to-shoulder not face to face
• Here and now foundation- what is going on currently in the present, not the past.

• Seek realism, not optimism
• CBT interventions in Depression: behaviors (choices) > thoughts (including images) v feelings <physiology (x in the middle)

Thought Record- Basic Tool
• Typical headings
- Situation, feelings (rate), thoughts (circle hottest), evidence for, evidence against, alternative thought, re-rate feelings.
- When you ask your friend to go get coffee and get turned down.
- Feelings: disappointed (3), confusion (7), surprised(7), annoyed (9.5), disrespected (7), sad (4), rejected (7). Each number rating will vary from each person.
- Thoughts: Heard a rumor, doesn't like me, other things to do, drunk/migraine/bad day, what a jerk, rude.
- Evidence for: He doesn't like me; walked away, hasn't called, doesn't run in the same circles.
- Evidence against: Maybe other good explanation, acknowledgement, good times when meeting, no social skills--bad.
- Alternative thought: Although (acknowledgement of negative), although (acknowledgement of positive).
- Feelings: Re-rate the feelings from the first column for feelings if they've changed for each mood.

Cognitive Distortions
• Patterns wills tart emerging in the hot thoughts
• Dysfunctional mental baits called cognitive distortions
• Various lists identify 9-15 distortions
• Each individual will specialize in a few
• Help short-cut to alternative thoughts

## Lecture 29- July 13, 2012

What is a positive psychology anyway?
• The study of what makes life worthwhile
• Previously the domain of philosophy and theology
• Psychology brings a scientific approach to these same issues.

**Which of these would NOT be topics for Positive Psychology?**
• improved treatments for depression, since it's taking people from negative to neutral and positive psychology is about taking from neutral to positive psychology.

• the nature of pleasure, promoting wellness, how institutions can bring out the best in people are what positive psychology is.

• Positive psychology argues that he field of psychology has, for very understandable reasons, become hugely biased toward the study of dysfunction. it aims to correct the imbalance.

Let's speak Greek!
• Pursuit of pleasure- hedonia
• Pursuit of meaning - eudaimonia
• Engagement- engagement
• Victory - Victory

'Three good things' exercise
• Promotes savoring and gratitude
• can be adapted to promote internal locus of control

• Increase happiness
• Increases tend to be sustained - why?

• My surprising result

The role of social comparison
• If the people around you don't have the same things as you have you're going to be happier, since you can afford more things  than your other neighbors.
• If you live with people who make more money than you, you're going to feel poor.
• If it's the same, you won't feel really any different.

Given hedonic adaptation, is the cult of materialism doomed?
• Basically - yes
• Possessions and accomplishments typically bring only transient pleasure
• You're going to like it at first and then after be used to the items that you have and it gets sort of boring after.
• What are the exceptions?
    - If it's useful like makes your day easier, but your appreciation isn't there anymore.
• Csikzentmihalyi - CHICK-met-sin- hi the flow state guy
What is a 'flow state'
• Total absorption
• Reduced awareness of extraneous stimuli
• Altered sense of time
• Intrinsically motivating

**Flow states are most likely if the task is**
• very challenging - beyond usual skill level
• **challenging- fully uses skills-** Interaction between the person's skill set and mind

• moderately challenging
• routine
• easy

**Lecture 30- July 18, 2012 (monday's class was cancelled) Occupational Psychology**

Occupational psychology the Positive psychology of the work place

- What makes a work place productive?
- What makes a work place healthy?
- What brings out the best in each worker?

Typically divides into:

• Personnel Psychology- getting people into the best suited jobs and optimizing performance
• Organizational Psychology- creating positive corporate culture
• 'Human Factors' psychology- interactions between machines and humans
• Who would you rather hire as a tour guide?

Remember talents and abilities?

• If you are hiring for a certain talent
    - Assess for ALL relevant abilities
• Consider- an artist is being hired to paint a series of murals around the city.
    - What abilities are you interest in?
        • Efficient
        • Leadership- take input
        • Aesthetic sense
        • Spacial sense
        • Enthusiasm - zest
        • Cooperation
        • Planning/ reliable
        • Paint well
        • No fears of height
        • Track record
        • Knowledge of the city
        • Organized

Remember signature strengths?

• Employees will be happier and most productive when playing to their strengths.
    - Note this is a shift from the educational principle of work-the-weakness
• Consider interests
    - Obviously relevant
    - Can have ability without interest
    - Easily feigned= but easily checked

Gems

• Hire for attitude; train for skill
• These are heuristics

Training program for the study of optimizing training
• Assess baseline- Relevancy
- Context
• Conditions- rewards by using a non-fixed scheduling
• Chunking- repetition
• Rehearsal-

## Lecture 31- July 20, 2012

• A fractal is when the same shape keeps on getting smaller and smaller, no matter what size it is it's still the same shape.
• The field of modern psychology began as a textbook answer would be when Wilhelm Wundt opens a psychology lab in leipzig in 1879.
• Metacognition- the ability to reflect on our own mental processes. Thinking about thinking.

Introspection
• Mainstay until recent centuries
• Powerful technique, but difficult to use with scientific rigor
• Resurfaces occasionally
- eg Edward Titchener
• Some re-interest with cross-study between eastern and western traditions
• Main use no is hypothesis generation

Application of scientific method
• Initially focusing on the most mechanistic, physiologic aspects of metal function
- sensation, reflexes
• Trend to gradually moving toward more intimately human aspects-why?

• Sigmund Freud is the most famous associated with psychoanalysis
• Pavlov (physiologist), Goodall, Descarte (mathematician), freud, john nash (economist)..what they have in common is that not one of them were self identified as a psychologist
Behaviorism
• Focused on environmental influences and resulting behaviors
• Cognitive processes where the intervening 'black box' not considered accessible to scientific inquiry, or necessary to understand.
• Conditioning, B.F. Skinner

Humanists
• Human behavior can only be fully understood in the context of the whole
• Very 1960s = hippies, peace, love, self actualizing

• Remains a popular philosophy, but inherently challenging to quantify
• What humanist have we studied?
    - Maslow

Cognitive Psychology
• Another reaction against behavioralism
• Opening the 'black box' and exploring mental processes

Always in psychology, two basic themes will shape thinking:
• the dynamic tension of the bio/psycho/social spectrum
    - How is this concept shaped by our biology?
    - How is it shaped by experience and environment?
    - How do biology an environment shape each other?
• What is the best way to explore this theme?
    - What research technique will give the most accurate information
• The shape repeats, fractal-like at all scales

## Lecture 32- July 23, 2012 (The brain)

• fore-brain forms the cortex
Where they are on the brain
• understanding social norms - Orbito frontal area
• Visual System - is at the back where it's high sensitive detail
• Language - Close to the front of the brain in the lower area
• Body sensations (somatosensory systems) - B behind the orbito frontal, the pre motor strip where it's planning and the motor strip that executes it. Behind is where the sensations come in.

What are the other two bumps
• Clusters of nucleii beneath the cortex
    - Including much of the limbic system and the hypothalamus
• Cerebellum
    - Fine tunes movement and gives us a sense of time
• Reticular formation (in the hind brain)
    - Over 200 nucleii, including those that regulate sleep and consciousness
• Brain stem- regulates automatic functions
• a clump of neurons working together = a nucleii
• a bundle of axons leaving the nucleii together = a tract

Consider 3 kinds of tracts
•intra- hemispheric
• inter-hemispheric
•long tracts (to rest of the body)

What if the axon doesn't join a tract?

• Meet the interneuron
    - Small
    - Entire within a nucleus
    - Axon may extend less than a millimeter
    - Processes incoming information
        • Like a ballot counter
        • Arguably, these do the thinking

How can an interneuron ‘count votes’?
• Output of a neuron is binary
    - Fires or doesn’t fire
• Input is summative
    - A given synapse being stimulated makes the cell more or less prone to fire
    - Depends on characteristics of the synapse

About those neurotransmitters
• Only 2 common ones
    - Glutamate - 90%- excitatory
    - GABA - about 10% - inhibitory
• Likely over 100 other ‘specialty’ transmitters
    - Some may be as few as 10,000 neurons
    - Highly specific tasks
    - Highly specific locations

Dopamine
• Pleasure/motivation
• Attention
• Coordination of movement
• Perception(abnormal in hallucinations)
• Lactation