

## Introduction to Psychology

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### PART 1 – INTRODUCTION

Psychology is the study of human mental activity, development and behavior and the diagnosis of abnormal mental states in addition to the activity of "Positive Psychology" (pg. 28) which strives to develop healthy individuals.

Key subjects of discussion include:

- **Cognition (CH1-14)**

The mental action or process of acquiring and generating new knowledge and understanding through thought, experience, and the senses. Involves intellectual functions such as: attention, the formation of knowledge, memory and working memory, judgment and evaluation, reasoning and "computation", problem solving and decision making, comprehension and production of language.

- **Emotions (CH15)**

Although there is currently no scientific consensus on a definition of emotion, it can be said that emotion gives humans the ability to experience suffering and joy, which intellect cannot do. Emotions are intertwined with mood, feelings, temperament, personality, disposition, creativity, and motivation; they played a pivotal role in motivating mankind's ancient behaviors that contributed to the passing on of genes through survival, reproduction and kin selection.

There are 6 basic emotions: 1) Happiness, 2) Sadness, 3) Fear, 4) Disgust, 5) Anger and 6) Surprise. Cognition is an important aspect of emotion where there is a strong argument for the maxim "Intellect reigns over emotion".

- **Personality (CH16)**

The traits that predict a person's behavior based on patterns of cognition & emotion. The Big Five OCEAN Inventory is the most used measuring tool to evaluate personality traits due to its ability to expand across different factors in personality (pg. 14).

- **Development (CH17-19)**

Developmental Psychology is the scientific study of how and why human beings change over the course of their life (thinking, feeling and behaviors). This field examines change across three major dimensions: 1) physical development, 2) cognitive development, and 3) social emotional development. Within these three (3) dimensions are a broad range of topics including motor skills, executive functions, moral understanding, language acquisition, social change, personality, emotional development, self-concept, and identity formation.

- **Psychopathology (CH20-21)**

Psychopathology is the study of abnormal cognitions, behavior and experiences. Its purpose is to restructure the client's irrational, negative, and/or distorted beliefs into rational, accurate or positive ones; to resolve troublesome behaviors, compulsions, emotions (eg, over exaggeration of negative experiences) or thoughts (eg, all-or-nothing or dichotomous thinking). 18th-century Philosopher Jean-Jacque Rousseau introduced the idea that healthy parent-child relationships provided sanity and that trauma in childhood could have negative implications later in adulthood. Rousseau's ideas later influenced 19<sup>th</sup>-century Austrian psychoanalyst Sigmund Freud who introduced psychotherapy or 'depth' psychology where the treatment involved a dialogue between the patient and the psychoanalyst ('talking therapy'). One goal of the 'talking cure' is for the psychoanalyst get the patient to realize that he or she has been deluding oneself.

Psychopathology can be broadly separated into descriptive and explanatory categories. Descriptive psychopathology involves categorizing, defining and understanding symptoms as reported by people and observed through their behavior. Explanatory psychopathology looks to find explanations for certain kinds of symptoms according to theoretical models such as psychodynamics or Cognitive Behavioral Therapy (CBT). CBT focuses on the construction and reconstruction of people's

cognitions, emotions and behaviors with the belief that one's thoughts cause emotions and for the patient to acknowledge that blaming whatever person, action, event, or circumstance that caused his or her suffering is counterproductive to the goal of improving one's well-being or mental health. Other sources of psychotherapy: clinical psychologist, counseling psychologist, clinical social worker, clergy, peer groups (eg, AA), self-help books.

If the patient is not interested in 'talking therapy' or is incapable of exploring one's depth, the psychiatric professional's other option is psychopharmacology: the use of drugs to improve an individual's well-being and mental health.

- **Social Interaction (CH22-23)**

There are six main types of social interaction which are influenced by either individual's characteristics and background and/or by societal or collective demands and situations: 1) Conformity, 2) Compliance, 3) Obedience, 4) Compromise, 5) Co-Operation & Competition and 6) Conflict (pg. 22)

## **Brain & Perception.**

Our minds make our world:

1) How we see.

We believe what we 'see'.

Issues: 1) visual illusions. Limitation with the brains visual system, 2) paying attention.

2) how we hear. (baby: ga vs ba)

3) What we know.

"Which is farther east, San Diego or Reno?" (our minds have a 'mental map')

"What is farther north: Philadelphia or Rome, Italy??"

"Which is farther north: Portland or Toronto??"

"Which is further west: Miami, FL or Santiago, Chile?"

4) How we think about things.

Probability of 2 people have the same birthday in room of 25 people.

## **Automaticity**

The Power of Automaticity: the brain/mind does things automatically to be efficient; without thought (cognition). (eg, walking without knowing where our feet are; speaking without knowing the details of grammar).

Peril: when actions are automatic we can lose control of it ourselves.

## **Cognitive & Affective Forecasting**

Think about your future. Affective Forecasting: not getting your 'cookie' (eg, tenure, winning the lottery, a job) or even having accident leading to quadriplegia only leaves one unhappy for a short period (3mos to 2yrs). Upshot: we've bad at predicating what make us happy.

Racism – gaps between Attitudes & Actions (Forecasters vs. Experiencer). Hard to eradicate at society level.

## **PART 2 – SCIENCE & RESEARCH**

We are all an amateur psychologist. Watch out for general statements; important to asked, "compared to what?" "What's the evidence?"

What is True?

- Authority (faith) – parents, teachers, professors, gov't officials.
- Repetition (tenacity)
- A priori (reasonable) – think things through.
- Scientific Analysis – hypothesis + validation. What makes something science? Scientific community says it is scientific. Is gravity a 'scientific opinion'? Jump the window to test.

We can prove something is true, but we can prove something is not true (proving the null hypothesis is correct).

Scientific approach to the human mind; many things that science cannot address. Other paths of knowledge: arts, religion, philosophy.

What makes something an experiment?

1) dependent variable (what you measure) – the outcome

2) independent variable – what you vary.

Long does a mental operation last? Press 1 of 2 buttons if light is red is green.

Time to respond single color: 0.20; Time to judge color: 0.09sec.

Edward Titchener: introspection; public vs. private thinking)

John Watson: 'mind' is unobservable; behaviorism: study the actions, not the mind; no fundamental difference between animals and humans.

1980"s: Cognitive Revolution. Stimuli → Mind/Brain → Responses

Correlation vs. Causation. Only an experiment (independent variable) can define causation.

2011: young adults are more stressful and less empathetic.

*Freakonomics: A Rogue Economist Explores the Hidden Side of Everything*  
(Steven Levitt, University of Chicago economist)

Levitt gained a reputation for applying economic theory to diverse subjects not usually covered by "traditional" economists. He makes the case that economics is, at root, the study of *incentives*.

Chapter 1: Discovering cheating as applied to teachers, sumo wrestlers and a bagel business.

Chapter 2: Information control as applied to the Ku Klux Klan and real-estate agents.

Chapter 3: The economics of drug dealing and the reality of low earnings and abject working conditions of crack dealers.

Chapter 4: How legalized abortion played a role in reducing crime. Contrasted with the policies and downfall of Romanian dictator Nicolae Ceaușescu.

Chapter 5: The negligible effects of good parenting on education.

Chapter 6: The socioeconomic patterns of naming children (nominative determinism).

People's behavior (eg, following the rules) relate the 'order' or 'chaos' of the environment. Throw trash on ground around graffiti environment.

Who is in the experiment? Not always random.

W.E.I.R.D.: Westernized, Educated, Industrialized, Rich Democracies

US college students are 4,000 times more likely to be a research participant.

Confirmation Bias: the tendency to search for, interpret, favor, and recall information in a way that confirms or supports one's prior beliefs or values. Example: Experimenter Bias. Psychology students were told that the test rats were either "maze-bright" or "maze' dull". "Maze-bright" rats tested better for they were unconsciously 'coached' better – data matched expectation.

Little Things can Influence Behavior: experimenter asks the subject to hold a warm or cold cup - effects the subject's judgment when asked if a person is "warm' or 'cold' to him or her.

### **Folk vs Scientific Psychology**

In philosophy of mind and cognitive science, folk psychology, or commonsense psychology, is the human capacity to explain and predict the behavior and mental state of other people typically based on intentional (volition) and unintentional actions and the use of common linguistic terms as opposed to technical or scientific jargon. Folk psychology remains the subject of much contention in academic circles with respect to its scope, method and the significance of its contributions to the scientific community. A large part of this criticism stems from the prevailing impression that folk psychology is a primitive practice reserved for the uneducated and non-academics in discussing their everyday lives.

### **Praise: Intelligence vs. Hard Work**

Stanford University psychologist, Dr. Carol Dweck, and her colleagues, explored students' attitudes about failure. They noticed that some students rebounded while other students seemed devastated by even the smallest setbacks. After studying the behavior of thousands of children, Dr. Dweck coined the terms fixed mindset and growth mindset to describe the underlying beliefs people have about learning and intelligence - "when students were praised for effort, 90 percent of them wanted challenging new tasks they could learn from." Thus, began the "Growth Mindset Revolution".

Studies have found that doing better leads to better self-esteem and that incorrect praise can harm.

Dr. Dweck's test on 5<sup>th</sup> Graders: perform hard task. Point-of-View of Intelligence: trait or growth.

Praise for intelligence – *performance declined*.

Praise for hard work – *performance improved*.

No praise (control group) – no change

“Anybody can be great at anything if they work on it for 10,000 hours. Effort vs. Talent (bias toward talent).

### **PART 3 – BRAIN STRUCTURE & FUNCTIONS (Brain I)**

Your mind is what your brain does. Consciousness is the “Hard Problem” (HP).

Temporal Lobes (4 lobes). The “smarts of the brain”:

The “smarts of the brain”: 1) Frontal lobe, 2) Parietal lobe, 3) Temporal lobe, 4) Occipital lobe

Functions: visual, process sensory input, language recognition, new memories. When the brain ‘fires’ on its own the experience is the same when the brain response to stimuli.

#### Neuronal Computational Elements

1) glia & neurons

2) Neuron. Soma = cell body (grey matter); Axon = output (white matter); dendrite = input

The Central Nervous System (CNS). Amazing statistics:  $1 \times 10^{12}$  neurons;  $1 \times 10^{15}$  synapses: 62,000 miles of myelinated axons: 100,000 miles of dendrites

#### Parts of the Brain

1) Cerebral cortex      2) Corpus callosum      3) Pons      4) Medulla

5) Cerebellum – consistent cellular organization; very mysterious structure; involves motor control.

6) Basal ganglia (relates the ‘reward systems’ – what we find delightful)

7) Limbic system – (Hypothalamus, pituitary gland, amygdala, hippocampus). Involved with emotion and memory.

### **PART 5 – VISION I (Biology)**

#### Visual System

Each eye looks at left & right fields. The neurons from the right eye communicate to the left brain & vice versa. Very seamlessly integrated. Left hemisphere controls the right hand and vice versa. Great big mystery.

The human eye can detect a candle 30 miles away on a dark, clear night.

The human ear can detect cochlear displacement equal to the width of a hydrogen atom.

The human tongue can detect on teaspoon of sugar mixed with 2 gallons of water.

The human nose can detect the smell of 1 drop of perfume diffused into the space of a 3-bedroom apartment.

#### Purpose of Vision: What & Where

1) What: object recognition.

Issues: equivalence (same shape, viewing conditions); generalization (different shape); impoverished input (partial information).

2) Where: navigation.

Computer Vision object detection & image recognition issues. image binarization, image tilt correction, image orientation, image geometric correction and image normalization allows images collected on different illumination conditions, different acquisition angles to be quickly identified.

Vision Process:

1) Seeing. How we ‘see’ the world. Philosophical approach: vision is an interpretation of the world.

a) Objectivist view: Tabula Rasa (‘blank slate’ view; John Locke). Tabula Rasa is the theory that individuals are born without built-in mental content and that all knowledge comes from experience or perception.

b) Subjectivist View: Gestalt. No inherent organization to the world. Our brain organizes our perception and we therefore believe the world is organized. “Piano” analogy – it cannot sound like a

clarinet (breakdown of piano analogy: synthesizer could look like anything – eg, a guitar sounding like a piano).

Tricks of visual illusions: problem of brightness constancy (a piece of coal in sunlight may reflect 10x as much light as snow in the shade). Perceptual psychology.

c) Synthetic View: the world appears to us the way it does because: 1) we perceive only within the limits of our nervous system, 2) our nervous system has evolved to reflect portions of the world very accurately.

2) Retina. Light from object enters the pupil, the iris, the lens which inverts the image 180° on to the retina – light sensitive tissue with photoreceptor cells (rods & cones)

Rods – responsible for night vision; little role in color vision. Why colors are much less apparent in dim light. Peak: 498nm

Cones: sensitive to color. Blue peak: 420nm; Green peak: 534nm, Red peak: 564nm

3) Visual Cortex. Area of the cerebral cortex that process visual information (back of the brain).

## PART 6 – VISION II (Perception)

Perception is the organization, identification, and interpretation of sensory information to represent and understand the presented information or environment.

Object Recognition:

- Objects & Agnosia (inability to process sensory information)
- Faces – Identity: face processing is slowly learned and is a highly specific skill.
- Expression (feelings). 6 Basic emotions: happy, sad, fear, anger, surprise, disgust.  
Prosopagnosia ('face blindness', cognitive disorder of face perception)  
The amygdala plays a role in fear, anxiety and aggression. Part of the limbic system. Brain scans show that people who self-identify as conservative have larger and more active right amygdala (expressing and processing fear). Groundbreaking research that Yale psychologists published in 2017 revealed that helping people imagine they are completely safe from harm can make them (temporarily) hold more liberal views on social issues.
- Words – naming things like animals activates the visual cortex (just the word 'elephant' or 'cat' lights up the visual part of the brain; naming things like tools activates the area of the brain that process visual motion).

## PART 7 - ATTENTION

How one is attentive to the world around us is weirder than one thinks.

*"Everyone knows what attention is. It is the taking possession by the mind in clear and vivid form of one out of what seems several simultaneous objects or trains of thought... It implies withdrawal from some things in order to deal with others."* William James (1890)

Attention is a gatekeep to perception and knowledge. Very limited. Unconscious/Unattended processes.

Processes that direct our attention:

Bottom-up process: external stimuli

Top-down process: internal thoughts and goals

The Stroop Effect is the delay in reaction time between congruent and incongruent stimuli. Example: the word green printed in blue (incongruent).

Feature: defined by 1 dimension (shape, color). Very low response times in discrimination (not a function of the set size). Pre-attentive behavior

Conjunction: define by co-occurrence of two dimensions. Discrimination response time is a function of the set size. Attentive behavior.

## PART 8 - CONSCIOUSNESS

- Sensation: nerve impulses from sound, image, taste, odor or touch (classic '5 Senses'). Also, impulses regarding balance, body position and movement, pain and temperature.
- Perception: processing of the information from the impulses.
- Blindsight: the ability of people who are cortically blind due to lesions in their primary visual cortex (V1) to respond to visual stimuli that they do not consciously see. Known as "**Sensation without Perception**". Small pathways from the eyes to the brain other than the conscious cortex. Very rare.

Sidenote: can there be "Perception without Sensation"? Mystery: The Other Side (spirits, past relatives) communicating to one.

All of us have this collicular system (superior colliculus – optic lobe) in us – a visual system that has been around long through evolution. We do not have conscious access to it. Deeper insights are revealed in the patients with an afflicted 'superior colliculus' (disorder).

Anosognosia: a condition in which a person with a disability is cognitively unaware of having it due to an underlying physical condition. They deny having any problem at all.

## PART 9 - LEARNING

We have learned things either by: 1) our genes or 2) life experiences.  
We often learn from the past to predict the future.

### Conditioning

Operant conditioning (also called instrumental conditioning) is a type of associative learning process through which the strength of a behavior is modified by reinforcement or punishment.

Early Research: Ivan Pavlov studied dog's unconditioned conditioned salivation reflexes.

### Conditioning

Anacronym	Name	Property
USC	Unconditioned Stimulus	Food
UCR	Unconditioned Response	Salivating (food)
CS	Conditioned Stimulus	Bell
CR	Conditioned Response	Salivating

For the dog the 'bell' became new meaning. Conditioning produced a new association (Bell = Food).

John B. Watson (1878-1958): "mind" is unobservable; behaviorism (AQAL: Right-plane psychology)  
B.F. Skinner (1904-1990). Classical conditioning: CS elicits CR; behaviorism.

### Reinforcement

- Primary: food, thirst, pain
- Secondary: money, attention, praise, admission, promotion.
- Positive: increase behavior
- Negative: decrease behavior, escape
- Punishment

**Learned Helplessness:** occurs when an individual continuously faces a negative, uncontrollable situation and stops trying to change their circumstances, even when they can do so.

How to response to the setbacks in our lives? Positive Possibility: Delayed Gratification (resistance to the temptation of an immediate pleasure in the hope of obtaining a valuable and long-lasting reward in the long-term). Can be the 'spectacular' part one's life.



B.F. Skinner–Norm Chomsky Debate: “Is Language Learning a Conditioned Skill?”

The debate showcases the divide between Psychology and Anthropology as social sciences. Psychology concentrates more on an individual level, such as a person’s cognition and attitudes, while Anthropology focuses more on the individual in connection to their culture.

Skinner: children learn language from the environment. Behaviorist framework: the child says the word “book” and their teacher nods and rewards them for saying the right word.

Chomsky: postulated the theory of Universal Grammar (UG), a theory of the genetic component of the language faculty. That certain set of structural rules are innate to humans, independent of sensory experience. Geoffrey Sampson (Professor of Natural Language Computing in the Department of Informatics, University of Sussex) maintains that UG theories are not falsifiable and are therefore pseudoscientific.

### **Falsifiability**

In the philosophy of science, a theory is falsifiable if it is contradicted by possible observations which must have a conventional empirical interpretation. Logical positivists such as A.J. Ayer had argued that for a proposition to be meaningful, it must in principle be capable of proof (‘verification’). Karl Popper, eminent philosopher of science, argued that the hallmark of a genuinely scientific proposition is not that it can be verified (because no number of observations can conclusively prove a hypothesis), but that the proposition can in principle be disproved (‘falsified’). For example, the proposition ‘All swans are white’ cannot be proved no matter how many swans you see; but it can be disproved by seeing just one black swan.

Horoscopes are not scientific because there is no way to disprove the claims that are broad, vague and contradictory. How would disprove a horoscope that says, "Now is a good time to starting something new". Propositions made by climate change activists inform us that climate change leads to less snow and then to more snow; it makes wet places wetter and dry places drier except when it is wet places drier and dry places wetter; it causes more hurricanes and less hurricanes; is causes longer bird migrations and also shorter bird migrations; that global warming causes more crime, but reducing crime causes more global warming (if you disagree with any of these propositions you are tagged as a 'climate denier' and, to some, you should be incarcerated). In short, ‘Climate Change’ theory cannot be falsifiable thus, technically, it is not a scientific theory. Some claim this akin to "Climate Astrology". In the words of Karl Popper: "A theory that explains everything, doesn't really explain anything".

### **PART 10 – MEMORY I**

Versions of defining memory: 1) camera (that consciousness is recorder that stores experiences), 2) punch bowl (memories get mixed together)

Bottom-Up: perceptual experience; what we see & hear.

Top-Down: prior knowledge, concepts, expectations, subsequent experience

3-Stage Model: 1) sensory memory, 2) Short-term memory (7 +/-2 chunks), 3) Long-term memory

#### **Chess Memory Test**

Two setup situations: actual play vs. random setup. Subjects asked to remember the setup. Setup is cleared and subject asked to reproduce the setup. Subjects were chess masters and beginner players. Outcome: chess masters were quick to reproduce the actual play but were slower to reproduce the random setup. Chess masters have a lot of background knowledge – not held to the “7 chunk” memory (limited operating space). The randomness conflict with their background knowledge.

The meaning of the word relates to better recall (over visual appearance or the sound of the word).

You test better in the same situation in which you learned it (experiment: learning something on land vs. underwater).



Synesthesia: perceptual phenomenon in which stimulation of one sensory/cognitive pathway leads to involuntary experiences in a second sensory/cognitive pathway. Grapheme–color synesthesia: letters or numbers are perceived as colored.

Eyewitness Testimony. Involves "flashbulb memory" - the surprise, indiscriminate illumination, detail, and brevity of a photograph; however, flashbulb memories are only somewhat indiscriminate and are far from complete. Investigators prefer to have the witness know something that was not publicly released.

## PART 11 – MEMORY II (Amnesia & Memory Systems)

Brain organization of human memory. The memories of our lives are a huge piece of who we are.

### Memory

- Anterograde Amnesia: loss of the ability to create new memories after the event that caused amnesia, leading to a partial or complete inability to recall the recent past, while long-term memories from before the event remain intact.
- Retrograde Amnesia: a loss of memory-access to events that occurred or information that was learned in the past.
- Memory Systems
  - Explicit Memory (declarative, conscious). Intentional recollection of factual information, previous experiences, and concepts.
    - Semantic Memory (facts, general knowledge)
    - Episodic Memory (personal experiences)
  - Implicit Memory (non-declarative, unconsciousness)
    - Procedural memory (motor skills, habits, tacit rules). Performance of types of tasks without conscious awareness (eg, tying shoes, riding a bike, playing the piano, flying a plane).
    - Conditioning effects (conditioned emotional reactions)
    - Priming (perceptual & conceptual priming)

Hippocampus: The hippocampus is part of the limbic system (emotion, behavior, long-term memory), and plays important roles in the consolidation of information from short-term memory to long-term memory. One hippocampi on each side of the brain. Most likely place epileptic seizure begin.

Famous Amnesic Patient: Henry Molaison (known as H.M.). American man who had a bilateral medial temporal lobectomy to surgically resect the anterior two thirds of his hippocampi, parahippocampal cortices, entorhinal cortices, piriform cortices, and amygdalae to cure his epilepsy. The severe side effect was that he became unable to form new memories.

## Part 12 – LANGUAGE

Phonology – sounds of language.

Syntax (grammar, structure) – how the order of words can change the meaning of the expression.

Semantics (meaning)

Pragmatics – practical understanding; humor, sarcasm (2 negatives make a positive, but 2 positives don't make a negative." "Yeah, yeah"); emotional intonation & right hemisphere

Emotional Comprehension/Production (the tone of the subject)

- Phonemes are building blocks of speech sounds (boy vs toy)
- Humans use 100 phonemes – 45 in English (26 letters; letters are no phonemes – "hot" & "cold")
- Born to hear all phonemes – use or lose it in development after 6/8 months.

Hearing a word: acoustic wave to the ear → phonemes → word

Major difference from the physical signal to the ear to what you actually hear (includes silences breaks).

Expressive aphasia (Broca's aphasia): a type of aphasia characterized by partial loss of the ability to produce language (spoken, or written), although comprehension generally remains intact.

Receptive aphasia (Wernicke's aphasia): a type of aphasia in which individuals have difficulty understanding written and spoken language.

Classic debate: how deeply does language equal thought (language in the sense of speech). Depends on what you mean by language and thought in many ways. If language means comprehending ideas in the world or if it means planning actions for the world or changing the world it is hard not to have that capacity for thinking in that way. Without using the mouth or hand (sign-language) it's to separate out what we call thought and what we call language.

## PART 13 – THINKING

### Problem solving

Problems that appear difficult but are easy to solve: Bird-and-Train Problem. Or “how many days in a light-year?” (trick question, simpler than you think<sup>1</sup>). The trick is to ‘undress’ reality or the question – take it down to the basic components; not to get misled by ‘complex’ jargon.

Functional fixedness – the mind is going a certain way and thinking gets tripped up.

- 1) Synonym for People or family? Answer: Folk
- 2) Name of an American President at the time of the Mexican War? (rhymes with ‘Folk’) Answer: Polk
- 3) What is the word that means egg white? Question to trip you up. Answer is not ‘Yolk’.

“Thinking outside the Box”: 3x3 matrix of dots. Connect the dots with only 4 lines (can’t lift the pencil).

We all have a range of performance: Peak, Average, Worst. You cannot always be at your best. Statistics.

Regression to the Mean: the phenomenon that arises if a sample point of a random variable is extreme (nearly an outlier), a future point will be closer to the mean or average on further measurements.

The “hot hand” is considered a cognitive social bias that a person who experiences a successful outcome has a greater chance of success in further attempts. No such thing as a hot streak - the probability of a good basketball shot is not dependent upon the probability of the prior shot. No statistical support.

What is the probability that 2 people in a room of 30 have the same birthday? Surprise answer: 70%.

Quick problem solving is influenced on the ‘anchoring’ or starting point. Is the Mississippi River longer or shorter than: 1) 500 miles? or 2) 5000 miles?. Anchoring point ‘500’ leads one to guess 1000 mile (roll up). Anchoring point ‘5000’ leads one to guess 2000 miles. (actual: 2,350 miles).

Note: 500 miles is an unrealistic starting point. Lower bound: 1000 miles. Upper bound: 5000 miles. Geometric mean:  $(1000 \times 5000)^{1/2} = 2,236$  miles (within 5% of actual miles). Arithmetic Mean:  $(1000 + 5000)/2 = 3,000$  miles (28% over the actual miles).

Exact same outcomes with different questions: “Lives Saved?” vs. “Lives Lost?” or “Gains” vs. “Lost” Human nature to prefer “Lives Saved” or “Gains”. Huge psychology – found in politics, business, surveys.

Statement: Jack is looking at Anne, but Anne is looking at George. Jack is married, but George is not. Question: Is a married person looking at an unmarried person?

(A) Yes

(B) No

(C) Cannot be determine (>80% of survey participants answer “C”).

Correct answer: (A). Fully Disjunctive Reasoning – consider all the possibilities. Anne’s marital status is unknown. (A) is true: 1) if married Anne is looking at unmarried George or 2) if married Jack is looking at unmarried Anne.

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<sup>1</sup> Answer: 365 days.

Statement: A bat and a ball cost \$1.10 in total. The bat costs \$1 more than the ball.

Question: How much does the ball cost? Quick thinking leads to \$0.10. Best to use algebra.

Variables:  $B_1$  = bat cost;  $B_2$  = ball cost.

Solving with Math: Eqn. #1:  $B_1 + B_2 = \$1.10$ ; Eqn #2:  $B_1 - B_2 = \$1.00$ .

Goal: solve for  $B_2$ :

Step 1:  $B_1 = \$1.10 - B_2$  (using Eqn #1).

Step 2: Put  $B_1$  into Eqn #2:  $(\$1.10 - B_2) - B_2 = \$1.00$ .

Solve for  $B_2$ :  $2B_2 = \$1.10 - \$1.00 = \$0.10$ .  $B_2 = \$0.05$ .

## Frontal Lobes & Thinking

Desires & Decisions (Greek philosopher Epictetus)

- Primary & Premotor areas
- Desires: Orbitofrontal
- Decisions: Dorsolateral

Benefits of Powerful habits: reading, walking, etc.

Some people have the condition where strong habits affect their behavior (eg, see a hypodermic on a table - drop their pants and inject themselves).

Brain imaging can only be show in the penalty stage of a capital trial (after the verdict).

## **PART 14 – INTELLIGENCE**

Why test people? To verify that someone knows something; to validate what one has learned.

“High-Stakes” Test – about selection and achievement. Advance placement tests.

The previous courses have been, to a first approximation, general principles of the human mind and brain across everybody – vision, memory & thinking across everybody.

The domain of intelligence study is looking at differences between people.

What is intelligence? Sometimes a ‘loaded’ word.

- Ability to solve problems.
- Understand & learn complex material.
- Adapt to the environment.
- Mental quickness

Studies of intelligence are almost always correlational and rarely experimental (independent & dependent variables). Subject to lots of interpretation (subjective vs objective testing).

Studies of intelligence focus on differences among people rather than intelligence per se.

The original goal of the SAT was to be a national test to be fair for everybody – to be democratizing. To limit the behavior of schools like Harvard that tended to admit the same kind of students from the same set of small schools of the Northeast. The SAT was supposed to admit people on their merit rather than on social connectivity networks. Now SATs are now viewed as a suspicious tool in that regard.

IQ = Intelligence Quotient. Mental age vs. Chronological age

The Wechsler Adult Intelligence Scale (WAIS) is the most widely used IQ test, for both adults and older adolescent, in the world. The WAIS was first published in 1955 by David Wechsler (Romanian American psychologist).

## Verbal Subtests

- Vocabulary – define words

- Similarities – how are an airplane and a car alike
- Arithmetic – simple operations
- Digit Span – digits in Short-Term Memory (STM) capacity
- Information – who was Martin Luther King, Jr<sup>2</sup>.?
- Comprehension – why are there taxes?

Performance Subtest (nonverbal)

- Picture Completion – what is missing?
- Digit-Symbol Coding
- Block Design
- Matrix Reasoning
- Picture Arrangement – order pictures

Standardized IQ Test

- Standardized sample – random population
- Normal Distribution
- Norming (raw score vs. standardized score)
- Mean = 100 std. (std. deviation = +/-15)
- 67% of people are +/- 1 sd (85-115); >2sd = 4.5%

Validity

IQ correlates with GPA in high school & college, job success, salary, stable marriages, staying out of jail, longevity. 25% of variation (personality, education, culture).

What does +/-15 IQ Points Mean?

100 – average in high school, year or 2 in community college.

115 – at least college, white collar (+15)

85 – dropping out of high school, skilled labor (-15)

<b>IQ Group</b>	<b>Avg. Income<sup>3</sup></b>	<b>Normalized</b>	<b>Illegitimacy Rate</b>
Very bright (120+)	\$70.7K	134%	2%
Bright siblings (110-119)	\$60.5K	115%	10%
Reference group (90-109)	\$52.7K	100%	17%
Dull siblings (80-89)	\$39.4K	75%	33%
Very dull siblings (<80)	\$23.6K	45%	44%

“Flynn Effect” – IQ scores worldwide have been improving since early 1930s.

Where are the Gains?

Small gain in vocabulary, general knowledge, arithmetic.

Large gains in similarities (“in what way are dogs & rabbits alike?” – both are mammals, dogs hunt rabbits).

General intelligence - Fluid intelligence refers to the ability to reason and think flexibly. Mental process; novel tasks. Declines with age.

Specific Intelligence - Crystallized intelligence refers to the accumulation of knowledge, facts, and skills that are acquired throughout life. Known information. Increases with age.

EQ - Emotional Intelligence. Very hard to measure a person’s EQ.

Multiple Intelligences: linguistic, spatial, music, logical-mathematical, bodily-kinesthetic, intrapersonal, interpersonal, naturalist, existential. Some are ‘hard as heck’ to measure.

<sup>2</sup> American Baptist minister and civil right activist (assassinated in 1968).

<sup>3</sup> 2011

### Intelligence: Nature & Nurture

Breast feeding for at least 6 months correlated with 5–7-point IQ gain (3,000 person survey from birth to young adulthood). Just a correlation – exact mechanism not understood (probably love).

Extreme conclusion: ‘2 months more of breast feeding will get my kid to MIT!’.

### Intelligence: Group Differences

History of racism, sexism. “biologically weak stocks”

99.9% genetic similarity – is ‘race’ a biologically meaningful category?

Attitude or affirmation is significant in reducing the “Achievement Gap” (by 40%!).

When people write an essay about testing worries it improves exam performance. Scientific evidence.

## 15 – EMOTION & MOTIVATION

*“If you can conceive of yourself...suddenly stripped of all the emotion with which our world now inspires you...no one portion of the universe would then have importance beyond another; and the whole character of its things and series of its events would be without significance, character, expression or perspective.”* – William James (1842-1910)

Lots of words to describe our emotions. In terms of research (language, thinking, cognition, etc) emotion was not studied for a long, long time due to the ability to study it *scientifically*. Still hard to study.

Definition of Emotion: responses to situations that are personally relevant. They are shaped by learning, and usually involve changes in peripheral physiology, expressive behavior and subjective experience.

### Emotions vs. Mood

- Mood – diffuse, long-lasting emotional states
- Emotion – immediate responses to a specific object or situation

### Dimensions of Emotion

- Arousal (Y-axis): High (excited, tense), Low (calm, lethargic).
- Valence (X-axis): Positive (elated, contented), Negative (sad, gloomy).

Debate on Order: subjective experience vs. body response

Can peripheral bodily events influence emotions?

Activity 1: hold pencil tightly between teeth (forces smiling expression) or between lips (prevents smiling) while watching a funny movie. Smiling expression led to more enjoyment. Tricked the face to smile.

Upshot: feeling will follow from the expressions.

Deaf & blind children have emotions.

6 Basic Emotions: Happy, Sad, Fear, Anger, Surprise, Disgust

Fear conditioning depends on amygdala.

Big Question: does brain imaging tell us that behavior is in the genes when one is born or a consequence of socialization or both? Many people (falsely) assume that if you see it in the brain that its hardwired and genetic or hormonal or something. Brain imaging data never tells you that, it just tells you by this age what is going on. Hard for psychologist to know if the influence is in the genes or in the culture.

## PART 16 – PERSONALITY

Individuality – Every person is, in certain respects:

- Like all other persons.
- Like some other persons.
- Like another person.

Personality – Cognitive Tendencies

- Traits (constant, continuum). The older one gets the more consistent you become.
- States (temporary)
- Situations (contexts)

18,000 words in the dictionary that are adjectives or terms for personality (affable, agreeable, amiable, convivial, friendly, sociable, welcoming).

Big Five Personality Traits: OCEAN Model

### 1) Openness to experience

Sometimes called intellect or imagination, this represents the willingness to try new things and think outside the box. Traits include insightfulness, originality and curiosity.

High openness: more likely to major in humanities; change careers in midlife; perform better in job training programs; play a musical instrument.

### 2) Conscientiousness

The desire to be careful, diligent and to regulate immediate gratification with self-discipline. Traits include ambition, discipline, consistency and reliability.

High conscientiousness: more sexually faithful to spouses; higher job ratings; smoke less, drink less, drive more safely, live longer, less risk for Alzheimer's disease (89% less); play musical instrument.

### 3) Extroversion

A state where an individual draws energy from others and seeks social connections or interaction, as opposed to being alone (introversion). Traits include being outgoing, energetic and confident.

### 4) Agreeableness

The measure of how an individual interacts with others, characterized by degree of compassion and cooperation. Traits include tactfulness, kindness and loyalty.

### 5) Neuroticism

A tendency towards negative personality traits, emotional instability and self-destructive thinking. Traits include pessimism, anxiety, insecurity and fearfulness.

High neuroticism: pay more attention to threat in environment; more stress when given surprise math test; higher divorce rate; more susceptible to depression and anxiety.

Personality Psychology vs. Social Psychology

Who we are (personality)

Situation we are in (social context)

Temperament	Comments
Shyness	Babies: more crying, distress, motor activity, faster heart rates, higher levels of cortisol. Signs of inhibition at 2-4 months predict shyness in later childhood and adulthood (25% are not shy in later childhood).
Sensation Seeking	Pursuit of novel, high-stimulation situations; diving, fast driving, drug/alcohol use; flame e-mails, punk music, driving accidents; lower levels of MAO-B in blood, may allow dopamine to last longer at synapse.
Extrovert	Less easily aroused, seek stimulation; do better in a noisy setting. More aroused in pm, less in am (test taking advise: drink coffee in am).
Introvert	Already aroused, seek quiet; more sensitive to pain, salivate more to lemon juice. More aroused in am, less in pm (test taking advise: drink coffee in pm).

## PART 17 – CHILD DEVELOPMENT

Neoteny in humans is the retention of juvenile features well into adulthood.

Baby-face Bias: "Baby-faced" adults are perceived as more naïve, honest, helpless, kind, warm and more likely to be found innocent in cases of intentional wrongdoing, less likely to receive votes. (contrary to facts or stated values).

## Nature vs. Nurture

- Some knowledge is innate (Plato, Descartes, Kant). Nativism: certain skills or abilities are "native" or hard-wired into the brain at birth.
- Nurture (Empiricism)
- "Nothing is in the intellect which was not first in the senses." (Aristotle, Locke, Berkeley)
- Babies appear to be "blank slates" (Tabula Rasa).

**Jean Piaget (1886-1980).** Offered a theory that tried to reconcile Nativism & Empiricism – a framework for understanding & charting child development.

Assimilation: incorporate new knowledge into existing cognitive structure

Adaptation: change cognitive structures to accommodate new evidence (eg, update one's 'O/S').

"Scientist in the Crib": every infant is his or her own scientist, probing the world, discovering the physical and social laws of the world.

## Piagetian Stages

Age	Stage	Worldview	Mental Life
0-2	Sensorimotor	Ego-Centric (magic)	Sensation, perception, images
2-7	Pre-Operational	Ego-Centric (mythic)	Symbolic language; concepts.
7-11	Concrete Operational Awareness (Conop)	Ethno-Centric	Organized logical thought, concrete but not abstract problem solving. Social Scripts.
11-Adult	Formal Operational Awareness (Formop)	World-Centric	Less concrete thinking; generate & test multiple hypotheses, consider physically impossible hypotheticals; <i>Thinking about thinking</i> . Moral stance: Post-conventional.
Adult	Adult	World-Centric	No new cognitive skills, knowledge

## Pre-Operational Stage

- Unable to conserve quantity of liquid (which glass has more water?; glass of different size, but same volume)
- Ball colored red on one side and green on the other and placed between the adult and the child. When the child is asked "What color do you see?" and "What color do I see?"— preoperational children will answer both questions the same. They do not know that you are seeing the red side. They cannot put himself in the other's shoes or see the world through other's eyes. Egocentric stage. The concrete operation child will correctly say, "I see green, you see red."

**Erik Erikson (1902-1994).** Developed a development model where people pass through eight (8) distinctive developmental stages as they grow and change through life.

Stage	Approx. Age	Theme	Comment	Major Question	Basic Virtue	Important Event
1	Birth - 18mo	Trust vs. Mistrust	Very important period of a child's life for it shapes their view of the world and their overall personality.	-	Hope	Feeding
2	18mo - 2-3	Autonomy vs. Shame & Doubt	Development of self-control.	-	Will	Toilet Training
3	3 - 5	Initiative vs. Guilt	Power & control over the world through directing play and social interaction.	"Am I good or Bad?"	Purpose	Exploration Play
4	6 - 11	Industry vs. Inferiority	-	"How can I be good?"	Competence	School
5	12 - 18	Identity vs. Role Confusion	Adolescents explore their independence and develop a sense of self.	"Who am I?"	Fidelity	Social Relationships
6	19 - 40	Intimacy vs. Isolation	Forming intimate, loving relationships with other people characterized by closeness, honesty and love. Struggle between fulfillment and loneliness & isolation.	"Will I be loved, or will I be alone?"	Love	Romantic relationships
7	40 - 65	Generativity vs. Stagnation	Adults strive to create or nurture things that will outlast them, either by parenting children or contributing to positive changes that benefit other people.	"How can I contribute to the world?"	Care	Parenthood & Work
8	65 to death or 'Going Home'	Ego Integrity vs. Despair	-	"Did I live a meaningful life?"	Wisdom	Reflecting on life



**Sigmund Freud (1856-1939).** Theory of Psychosexual Development

Stage	Approx. Age	Erogenous Zone	Comments
Oral	Birth - 1	Mouth	Relates to Trust vs. Mistrust.
Anal	1 – 3	Bowel & Blatter Control	
Phallic	3 – 6	Genitals	
Latent Period	6 – Puberty	Sexual feelings are inactive	
Genital	Puberty - Death	Maturing Sexual Interests	

Critical notes: the validity of psychoanalysis (a term created by Freud) as a science is very contested. Freud's psychosexual stages focused almost entirely on the male development; his theories, which are based on case studies and not on empirical research, are difficult to test scientifically; the libido concept is impossible to measure and future predictions are too vague.

**Lawrence Kohlberg (1927-1987).** Theory of Moral Development

Kohlberg theory is based on a series of moral dilemmas given to subjects (eg, steal life saving expensive drug to save your wife). Reasoning for one's decision triumphs over "right or wrong".

Level	Morality	Attributes
1	Pre-Conventional	Conformity & Obedience. Following the rules.
2	Conventional	Living up to social expectation & roles. Conformity & Obedience. Being 'nice'. To maintain social order. Respecting authority (parents, police, bosses, fire-fighters, etc).
3	Post-Conventional	Ideas of a social contract & individual rights. Role of Compliance (changing one's behavior or belief to avoid conflict).

Critical notes: Kohlberg's theory has been criticized as being Western-centric with a bias toward men (he primarily used male research subjects) and with having a narrow worldview based on upper-middle-class value systems and perspectives.

**PART 18 – ADULT DEVELOPMENT**

Remarkable evidence what physical exercise does for the brain. Increases the production of new neurons in the dentate gyrus of the hippocampus (important for memory).

Neurogenesis: the process by which nervous system cells, the neurons, are produced by neural stem cells (NSCs). It occurs in all species of animals except the porifera (sponges) and placozoans.

Compelling evidence that neurogenesis continues into adulthood in the olfactory bulb (sense of smell) and the dentate gyrus of the hippocampus (thought to contribute to the formation of new episodic memories (personal experiences) and the spontaneous exploration of novel environments).

**PART 19 – STRESS**

Attribute	Acute	Chronic
Physical	Injury	Hunger, cancer
Psychological	Deadline	Chronic work pressure
Social	Humiliation	Chronic isolation

Dread: people will prefer a higher voltage shock now than wait for an later, uncertain when it happens, lower voltage shock.

Stress & Autonomic Nervous System

Sympathetic Nervous System

- Brain to spine, organs, blood vessels, sweat glands, muscles and hairs (goosebumps)
- Emergency, arousal, activation
- Four Fs – Flight, Fright, Fight & F-k (sex)
- Releases epinephrine/norepinephrine

## Parasympathetic Nervous system

- Sleep, eating, relaxation. Stimulation of "rest-and-digest" or "feed and breed" activities when the body is at rest especially after eating, including sexual arousal, salivation, lacrimation (tears), urination, digesting and defecation.

1982 – Australian researchers (Drs. Barry Marshall, Robin Warren) discover a bacterium in the stomach known as *helicobacter pylori* causes gastritis or ulcers of the stomach or first part of the small intestine. Their research was heavily ridiculed by the entire scientific field which held that stress and diet was the cause of stomach disorders. The belief was that bacteria could not survive in strong stomach acids. Statistical research proved that that stomach disorders are not solely caused by bacterium and not related to stress. 15% of stomach ulcer cases do not have a measurable level of H. pylori. Many people have the bacterium – it is a common bacterium - but only 10% of the people with bacterium have ulcers. Most likely the issue is an interaction between stress and the bacterium.

Type-A Personality – immensely competitive, over-achieving, time-pressured, impatient, hostile, increased risk of cardiovascular disease (smoking, high cholesterol).

PTSD – Post-Traumatic Stress Disorder (assault/rape, combat; sustained in about 20% of people).

Psychological Modifiers – Sense of predictability and of control. Very important.

Nursing Home study:

- Group A – make decisions for yourself; where to receive visitors; when to watch movie; what houseplant to take care of.
- Group B – no instructions to make decisions; got plant, but staff took care of the plant.

18 months later: Group A was more cheerful, active, alert, healthier, half as many had died.

Sense of Predictability & of Control

Cultural Influences

- Individualist – US/Europe
- Collectivist – East Asian (and rest of the world?)

Life & Death struggle – when there is hope people (and rats) survive much longer (less stress).

## Embodied Cognition

- The nature of the human mind is largely determined by the form of the human body (bottom-up)
- Ideas, thoughts, concepts, categories are shaped by aspects of the body.
- Is emotional pain (social, romantic rejection) built out of physical pain? Romantic pain is like physical pain (heat) – turns on the same part of the brain. Emotional pain is very powerful.

## Pain

- Sensory – objective
- Affective – subjective (suffering, unpleasantness).

Racial Relations – Stereotype Threat (another form of stress)

Threat that other's judgments or one's own actions will confirm negative stereotypes about one's group. Stress from stereotype knowledge undermines performance (relates to 'Determinism').

Example, if a Black person is told they will not do well on a test, their performance is lower than when they took the test without being told that.

## **Implicit-Association Test (IAT)**

The IAT is a controversial assessment in the field of social psychology intended to detect the strength of a person's subconscious association between mental representations of objects (concepts) in memory. It attempts to assess implicit stereotypes held by test subjects, such as unconsciously associating stereotypically black names with words consistent with black stereotypes or associating stereotypical attributes consistent with gender stereotypes (eg, "logical" for men, "emotional" for women).

### IAT Black-White Test

Subjects are asked to tap LEFT for Unpleasant or White and RIGHT for Pleasant or Black ('difficult pairing')  
Slowest response in decision making when compared to the test that make the association of  
"Pleasant/White" & "Unpleasant/Black" ('easy pairing'). Responses are like all undergraduates across the  
country (US). Even happens to people who are convinced that racism is wrong, that they hold no  
stereotypes themselves.

Cancer LAMAR Corpse MATTHEW Truth JED Assault DEION Glory LAMONT kindness

### IAT Criticism

According to an article in The New York Times ("In Bias Test, Shades of Gray", NOV08), "there isn't even  
that much consistency in the same person's scores if the test is taken again". In addition, researchers  
have recently claimed that results of the IAT might be biased by the participant's lacking cognitive  
capability to adjust to switching categories, thus biasing results in favor of the first category pairing (eg,  
pairing "Asian" with positive stimuli first, instead of pairing "Asian" with negative stimuli first).

Dr. Jordan Peterson (Identity Politics & White Privilege, 2018):

"...that IAT the social psychologists have come up with, the Implicit-Association Test that "measures"  
unconscious bias. We don't know what the hell that measures! The people who invented that bloody  
thing, they know we don't know what it measures. They know it's not reliable. They know it's not valid  
enough to be used as an individual diagnostic instrument. Technically, that's the case. They also know  
that you cannot train people out of their unconscious biases, because there is not much difference  
between 'unconscious' bias and **instantaneous perception**. But they really don't care. I've written to  
[Harvard professor] Mahzarin Banaji, whose one of the inventors of the IAT several times, asking "why  
don't you come out in public and say what you already know?" Which is that people are misusing your  
damn test. Silence. Well, that's partly because her discipline, social psychology, is a corrupt discipline as  
the social psychologists have discovered over the last four years (since 2014); they've been turning  
themselves inside out trying to rectify which they have not.

## **PART 20 – PSYCHOPATHOLOGY I**

Psychopathology is the study of abnormal cognitions, behavior and experiences.

### The Four Ds of Abnormality:

- 1) Deviance. Specific thoughts, behaviors and emotions are considered deviant when they are unacceptable or not common in society.
- 2) Distress. Negative feelings by the individual with the disorder.
- 3) Dysfunctions: Maladaptive behavior that impairs the individual's ability to perform normal daily functions, such as getting ready for work in the morning, or driving a car.
- 4) Danger. Dangerous or violent behavior directed at the individual, or others in the environment.

Types of abnormalities: Schizophrenia, Bi-Polar Disorder, Depression, Substance Abuse, Anxiety, Panic Disorder, Phobia, Autism, ADHD, Dyslexia, Obsessive Compulsive Disorder.

### **History of Psychopathology**

Insanity thought of as Demonic Possession (madness); Trephination (drill hole into head to release 'evil spirits'); witch hunts in 16<sup>th</sup> & 17<sup>th</sup> century.

Insanity as a disease; patients chained in filthy conditions. London 'zoo'.

Egas Moniz (1875-1955) – won Nobel Prize in Physiology or Medicine in 1949. Introduced frontal lobotomy (now considered 'medical barbarism').

## **Diagnosis & Labels**

What is abnormal? Statistical deviance is used.

### Criteria for Diagnostic Category

- Signs (what the examiner sees) and symptoms (what the patient says)
- Syndrome = cluster of signs & symptoms
- DSM – Diagnostic & Statistical Manual of Mental Disorders (American Psychiatric Association)

### Three Benefits of Labeling

- Allocation of resources
- Coordination of services (treatment) & research
- Predicting behavior of individuals

### Definition of Mental Disorder

DSM-IV: a mental disorder is a pattern that occurs in a person and that is associated with present distress (a painful symptom) or disability (impairment of functioning) or with a significantly increased risk of suffering death, pain, disability or an important loss of freedom.

### The Rosenhan Experiment – False Diagnosis

An experiment, conducted by Stanford University psychology professor David Rosenhan, that attempted to determine the validity of psychiatric diagnosis. The participants feigned hallucinations to enter psychiatric hospitals but acted normally afterwards. They were diagnosed with psychiatric disorders and were given antipsychotic medication. His findings, published by the journal Science in under the title "On Being Sane in Insane Places" (1973), are considered an important and influential criticism of psychiatric diagnosis, and broached the topic of wrongful involuntary commitment.

### Politically Abusive Soviet Diagnosis

Psychiatrists in the Soviet Union, prior to the fall, were thrown out of the world-wide psychiatric association because they would diagnosis political protestors as being 'crazy' – who ended up being admitted into mental institutions and given anti-psychotic medications. The anti-totalitarian government protestors were labeled 'crazy' people because they failed to recognize the correctness of Marxist principles and the incorrectness of other competing systems. The Soviet diagnosis is considered 'politically abusive'.

### Diagnosis of Homosexuality

In 1968 the DSM-II listed homosexuality as a mental disorder (basically promoted from a 'church sin' to a secular mental disorder). In 1973 the American Psychiatric Association (APA) updated the description to "sexual orientation disturbance" for people "in conflict with" their sexual orientation. In 1987 homosexuality, as a mental disorder, was removed from the DSM.

### Diagnosis Debate

Current debate if obsessive video gaming playing is a mental disorder.

### Pervasive Developmental Disorder - Not Otherwise Specified (PDD-NOS)

PDD is a diagnostic category, opposed to SDD (specific developmental disorders), that characterizes delays in the development of multiple basic functions including socialization and communication. PPDs include autism and Asperger syndrome. PDD-NOS relates to Autism Spectrum Disorders (ASD), where the child has 2 of the 3 of the components for Autism. Psychologists have difficulty or do not full understand in 'drawing the lines' in making a proper diagnosis for autism so use of the term 'ASD'. Other PDD-NOS: Childhood Disintegrative Disorder (CDD); overactive disorder associated with mental retardation and stereotyped movements and Rett syndrome.

## **Schizophrenia**

Schizophrenia is psychiatric disorder characterized by continuous or relapsing episodes of psychosis. Major symptoms include hallucinations (typically hearing voices), delusions, and disorganized thinking. Other symptoms include social withdrawal, decreased emotional expression, and apathy.

Onset is late adolescence or early adulthood.

About 0.3% to 0.7% of people are affected by schizophrenia during their lifetime. About 25% may make full recovery; 25% remain severely disturbed. About 50% may require long-term hospitalization.

Treatment: neuroleptics (anti-psychotics). Their main action is on dopamine receptors, reducing levels of excess dopamine.

Drug companies have practically stopped developing treatments for psychiatric diseases due to unsuccessful results. Anti-psychotic drugs are not design in a 'bio-chemistry' sense – often by happenstance.

## PART 21 – PSYCHOPATHOLOGY II

### TREATMENT

- Psychoanalysis

Psychoanalysis a set of theories and therapeutic techniques used to study the unconscious mind with the goal to treat mental disorders. The term 'psychoanalysis' was established by Austrian neurologist Sigmund Freud in the mid-1890s. His 'school of thought' stemmed partly from the clinical work of Josef Breuer who developed the talking cure or cathartic method. Students of Freud include Alfred Adler, Carl Gustave Jung as well as by Neo-Freudian thinkers, such as Erich Fromm, Karen Horney, and Harry Stack Sullivan.

Freud rejected the notion that people's behavior was akin to a simple operation machine and articulated, more powerfully than his peers, on the complexity of the modern human mind. The idea that people have conflicts, tensions, desires and different feelings & thoughts – patterns all mixed within us. The specific ideas of Freud's psychodynamic theory include free association, resistance, transference, interpretation, corrective emotional experience. The existence of Freudian ideas – ids, Electra complexes – are difficult to prove in any scientific sense. Oddly, Freud is marginalized in current scientific psychology and the validity of psychoanalysis is as a science is very contested.

Ken Wilber sidenote: The simplest way to summarize Freud is that the "talking cure" means that we must learn to interpret our own depths more adequately ('depth psychology'). Different therapies have their own favorite context within which they offer their interpretations. Freudians emphasize the emotional-sexual level; cognitive therapists emphasize the verbal; transpersonal therapists emphasize the spiritual.

Professor Gabriel sidenote: **It is amazing how much medicine is not science-based.** It is amazing. The cry of 'we need science or evidence-based medicine' makes one wonder "what are they doing?" The best answer is, "they're treating the best they can, and what works, works; a lot of other stuff they don't understand exactly – when and why it works".

- Cognitive Behavioral Therapy (CBT)

Leader: Aaron Beck.

CBT focuses on the construction and reconstruction of people's cognitions, emotions and behaviors. The belief behind CBT is that your thoughts cause your emotions. Developed to be exactly opposite in many regards to psychoanalysis. Avoids the 'Woody Allen' psychotherapy where you talk with your psychiatrists for "40 years".

Dysfunctional beliefs: anxiety, depression, the world is threatening, the world is hopeless. Logical thinking errors and beliefs that one can work themselves out of to make yourself less anxious or less depressed. Better not to focus on childhood causes what happened, but on current problems you face day-to-day and how you grapple with them. Develop strategies that do not make you get down or depressed or fearful and anxious.

The therapy should be time limited (8wks). Not an endless review of your life. CBT is easier to test than classical psychotherapy.

- Psychopharmacology

The scientific study of the effects drugs have on mood, sensation, thinking, and behavior. A Psychiatrist, who has a medical degree, can write prescriptions for drugs to improve an individual's well-being and mental health (eg, Fluoxetine or "Prozac"). Recently, some states (Louisiana, New Mexico, Illinois, Iowa,

Idaho) have permitted psychologist to prescribe drugs with the requirement of completing a postdoctoral master's degree in clinical psychopharmacology and passing a board-recognized national exam. It is extraordinarily hard to develop medications for psychiatric disorders. Several medications have been discovered by accident (developed for something else). There have hardly been any major new ones in the last 10 years. Many pharmaceutical companies are abandoning their research programs due to the lack of success or traction. The Mind and the brain are so complicated.



#### Time Magazine (DEC03)

Lots of political debates regarding what's right for children: "Are we giving kids too many drugs?" You are never going to have a scientific answer to that – some kids get too many drugs, and some don't get enough.

- **Psychotherapy Therapy (Behavioral or talking therapy)**

The use of psychological methods and social interaction to help a person behave and feel differently and to overcome problems in desired ways. No real boundaries involved or 'official rules', just official 'channels'. Psychotherapy aims to improve an individual's well-being and mental health, to resolve or mitigate troublesome behaviors, beliefs, compulsions, thoughts, or emotions, and to improve relationships and social skills.

Other sources of psychotherapy: clinical psychologist, counseling psychologist, clinical social worker, clergy, peer groups (eg, AA), self-help books.

#### Does Psychotherapy Work?

- Initial pessimism: Eysenck (1952).
- Cautious optimism (Smith, Glass & Miller, 1980). Consensus: a lot of good with psychotherapy, but some not as good as they wished it would be. Very difficult to validate unique types of therapies that are customized for a specific difficulty and a specific personality type. A different type of 'talk therapy' or CBT is 'incredibly hard to demonstrate'.

#### When Does Psychotherapy Work?

2:1 chance of improvement (vs control)

Credentials (Ph.D., M.D, no degree) does not matter

Experience of therapist does not matter

Type of therapy does not matter

Length of therapy does not matter.

What matters is someone talking and listening with you (and maybe holding your hand).

### **DISORDERS**

- **Obsessive Compulsive Disorder (OCD)**

Anxiety disorder. Obsessions: recurrent, unwanted thoughts. Compulsions: repetitive behaviors (handwashing, counting, checking, cleaning).

What is the most helpful treatment? Research shows that behavioral treatment (mind) is more effective than medication (brain). Still unclear on what patient gets what treatment. Talk, experience, thoughts or imagination will change the brain as any medical substance does. It is wrong to think: "It's the drugs that change the brain and the talk that changes the mind". Change your mind, change your brain.

- **Depression**

- Fearful, gloomy, helpless, hopeless.
- Hamlet: "How weary, stale, flat, and unprofitable seem to me all the uses of this world".
- Pervasive dysphoria: intense mental pain; Anhedonia (inability to feel pleasure); Generalized loss of interest.
- 5% of world's population.

- Medication: 27M people in U.S. (2005). \$9.8B sales (2008)
- Average age of onset is 30, but wide spread. Rare to have first episode after 60 years.
- Women: 2-3 times the rate of men.
- ~70% who have an episode will have another. ~50% of patients do not achieve remission.
- DSM Diagnosis: at least 3 of the following: disturbed sleep, diminished appetite, loss of energy, decreased sex drive, restlessness, slow thoughts/actions, poor concentration, indecisiveness, feelings of worthlessness, guilt, pessimism, fixation on death or suicide.

Brain Cellular mystery: medical researchers explored the cellular level of the brains of deceased donor depression patients (cannot see fine structure with brain imaging). In the post-mortem analysis there was a big surprise: a reduction, not in neurons, but in glial cells. Neurons are the stuff that compute the mind and glial are important for brain function. Medical researchers are at a lost as what the discovery means: an equal number of neurons, but a reduced number of glial.

If you go to a doctor with depression or anxiety or social anxiety disorder, **it is almost completely random whether they assign you to one treatment or another** (within some broad constraints). There is no scientific basis on what drug you should get or a drug + CBT or CBT only – it is completely random. Depends on physician’s background and intuition.

#### Treatments for Depression

Clinical Trials: drug (random, double-blind with placebo); outcome (response vs. remission); interviews (physician, Hamilton Depression Rating Scale (HDRS)).

The HRSD has been criticized for use in clinical practice as it places more emphasis on insomnia than on feelings of hopelessness, self-destructive thoughts, suicidal cognitions and actions. Hamilton maintained that his scale should not be used as a diagnostic instrument.

Important Observation: very strong placebo response. In many studies the placebo response rivals the response of the drug itself. Huge debates on what that means and it is not well understood. Humans have a naturally occurring healing mechanism – that if we just believe. Where the power of healing thoughts capture and utilize the self-healing capacities of the mind/brain/body to feel better.

- Attention Deficit Hyperactivity Disorder (ADHD)
  - Characteristics: Inattention, Hyperactivity (80%), Impulsivity (diagnosis is challenging)
  - Population: 2M in US (2012); tripled since 1981; increased 2.5 times since 1990.
  - Gender Attributes: young Boys 2-3 times the rate of young girls.
  - First Line Medication: Ritalin (methylphenidate). Blocks dopamine and norepinephrine reuptake by neurons.

#### Top Ten Prescriptions (2020)

Rank	Mkt. Name	Tech. Name	Drug Class	Function
1	Lipitor	Atorvastatin	Statins	Treat high cholesterol
2	Prinivil, Zestril	Lisinopril	ACE Inhibitors	Treat high blood pressure
3	Accuneb, Proair	Albuterol	Short-acting Beta Agonists	Treat & prevent bronchospasm.
4	Synthroid, Unithroid	Levothyroxine	Thyroxines	Improve thyroid deficiency.
5	Norvasc, Amvaz	Amiodipine	Calcium Channelk Blocker	Treat high blood pressure & chest pain.
6	Neurontin	Gabapentin	Anti-Epileptics	Treat epileptic seizures.
7	Prilosec	Omeprazole	Proton Pump Inhibitors	Treatment for acid reflux.
8	Glucophage	Metformin	Biguanides	Control blood sugar levels in type 2 diabetes.
9	Cozaar	Losartan	ARBs	Treat high blood pressure, reduce the risk of stroke
10	Vicodin, Norco, Xodol	Hydrocodone Acetaminophen	Opioid	Treat severe pain. Narcotic pain medicine (opiate).



## **PART 22 – SOCIAL PSYCHOLOGY I**

Social psychology is the scientific study of the way in which the thoughts, feelings, and behaviors of individuals are influenced by the real or imagined presence of other people (ie, social norms). How we relate to other people.

### **Attribution.**

Attribution refers to inferring a cause for a person's behavior (why is she smiling at me?)

1) Dispositions: the character, personality, traits, disposition of the person. Domain of personality psychologists. Example: the other person is late for an appointment. Dispositional judgement: inconsiderate, disorganized, unmotivated.

2) Situations: the situation one is in (eg, save someone in trouble). Domain of social psychologists (feel that situations dominate everything). Example: the other person is late for an appointment. Situational judgment: busy, traffic, some situation made you late.

Fundamental Attribution Error. Also known as correspondence bias. Tendency for people to under-emphasize situational explanations for an individual's observed behavior while over-emphasizing dispositional and personality-based explanations for their behavior. This effect has been described as "the tendency to believe that what people do reflects who they are".

### **Conformity**

Conformity is a group phenomenon enforced by societal groups or conditions to change one's behavior or beliefs. In the broad picture, useful – necessary for social coordination, thus civilization. It is how we work together as people. Asch conformity experiments (1950s). Dominate motivator: avoid embarrassment or not to look different. Non-conformity can be the result of the lack of societal influences or, for the individual, the "Dofeski Factor": "Even if the song is good, I'm going to do it my way because I exist".

### **Compliance**

Compliant behavior is typically the result of situational factors than conformity. It is more individualistic than group conformity. For example, a smoker on train complies with the request of nearby passengers not to smoke. On the other hand, children who eat their lunch under a tree because they saw others doing are not complying to any directive and are thus conforming. The Foot-in-the-door sales technique is a compliance tactic that aims at getting a person to agree to a large request (buy something) by having them agree to a modest request first (eg, sign a petition to reduce accidents).

### **Obedience**

Changing one's behavior or beliefs without doubting in response to the demand of a more powerful person (God, parents, elders, religious priest, police, bosses, fire-fighters). Necessary for social order (civilization). In totalitarian and dictatorial societies, one must obey the dictator and the "1-party State". Obedience sometimes results in total elimination of reason, rationality, logic and basic human values. Other personality factors like dependence, poor self-image or feelings of guilt can contribute to the development of obedience. On the other side, if human societies must survive, and have some degree of civility, a certain degree of obedience to 'social-cultural' dictates and prescription is necessary.

### **Compromise**

Compromise means that adjustments are made on either side of conformity and compliance. For example, a smoker, who is told to completely give up smoking, elects to cut down on smoking.

### **Co-Operation & Competition**

Co-Operation is type of partnership where the individual and the other agency work together towards a common goal. Unlike conformity or compliance, co-operation involves a greater degree of sharing of perceptions, goals and to some extent even motivation. A balance view of the two drives is important. By competing against and comparing ourselves with one another, we learn how to improve and earn success. On the other side, some research has found that when individuals in a group are co-operative, the overall performance and output are much more effective than when they are competitive.

## **Conflict**

Conflict is the most complex form of social interaction where the goals, behavior and the motivation of the members are all contradictory and everyone perceives the other as a threat. Conflicting behavior involves two basic elements, defense and offence. In competition, the goal is to do better than the others, while in conflict it is to undo the others. Competition typically produces better results and performance than conflict which often results in maladjusted, non-productive and sometimes injurious behavior. Co-operation, when properly applied, seems to produce the best results and the maximum utilization of human resources, energy, ideas, etc.

## **Bystanders & Helpers**

The murder of Kitty Genovese (1964) became known as the bystander effect or "Genovese Syndrome" and the murder became a staple of U.S. psychology textbooks for the next four decades.

The Bystander Effect: 1) pluralistic ignorance (uncertain if there was a real emergency; saw others not reacting), 2) diffusion of responsibility (someone else is getting help).

## **"Good Samaritan"**

The phrase "Good Samaritan", meaning someone who helps a stranger, derives from this parable, and many hospitals and charitable organizations are named after the Good Samaritan. The parable of the Good Samaritan is told by Jesus in the Gospel of Luke. "And who is my neighbor?" The conclusion is that the neighbor figure in the parable is the one who shows mercy to the injured fellow man—that is, the Samaritan.

## **Studies & Experiments**

**Conformity & Obedience Milgram Study** – A 1962 Yale University study on the willingness of participants to obey an authority figure who instructed them to perform acts (eg, administering electrical shocks) conflicting with their personal conscience. Stanley Milgram devised his psychological study to explain the psychology of genocide and answer the popular contemporary question: "Could it be that Nazi war criminal Adolf Eichmann and his million accomplices in the Holocaust were just following orders? The experiment found, unexpectedly, that a very high proportion of subjects would fully obey the instructions, albeit reluctantly. Fully 65% of participants gave the highest level of shock (450V). Test redone in 2009 (Burger) – same results (no difference between men and women).

**Stanford Prisoner Experiment.** A 1971 social psychology experiment that attempted to investigate the psychological effects of perceived power, focusing on the struggle between prisoners and prison officers. The guards became so sadistic, and the prisoners had such extreme stress responses that the study was terminated after only 6 days. Very similar to Abu Ghraid torture and prisoner abuse in the Iraq War (2003).

## **PART 23 – SOCIAL PSYCHOLOGY II**

### **1) Self Concept: Above Average – Enhancing our Views of Ourselves**

- Most US college student rate themselves as better than average students.
- 1M high-school students rated their leadership: 28% average, 70% average, 2% below average. 60% in the top 10% in ability to get along with others.
- 94% of college instructors rated themselves as better than average teachers.

Known as self-serving attributional bias (success reflects our traits, not situation)

Not good or bad thing – what people are saying themselves; good be a healthy thing; positive mental health.

Construction Social Reality: undefeated Princeton wins over Dartmouth. School newspapers had totally different accounts.

Realistic Depression & Illusory Optimism

### **False Consensus**

People choosing to engage in a behavior believe that their choice is more common than do people making the opposite choice.

Example: identical cars put in Bronx and Palo Alto (upper middle-class). Car in Bronx has no license plate; hood up – stripped in a day. The Palo Alto car is untouched for a week. False Consensus: after the window is smashed the car is stripped within an hour (signal: 'all rules are off').

## 2) Cognitive Dissonance

Cognitive dissonance occurs when a person's beliefs, ideas, or values contradict their behavior; discrepancy between one's attitude and actions (behavior) which entails a conflict or psychological stress.

Post-decisional behavior: something rated good or bad gets locked in and gets upgraded (good) or downgraded (bad). Prof Gabriel: "Whenever someone tells me how happy they are, with the choice they made in their life, but once I look at the facts of post-decisional behavior I think 'Once you made that choice, you're going to rate it as awesome, no matter what'".

### Aronson & Mills Study (1959)

Initiation rites play an important part in our cultures. Around the world the transition from childhood to adulthood is marked by initiation rites - from a circumcision ceremony to Americans and Europeans getting their driver's license, to Catholics getting confirmed and Jews having a Bar Mitzvah. Typically, it is about proving you are a good member to the group. Many are well intentioned, and the 'rite of passage' is relatively safe (eg, Navy Pollywogs to Shellbacks) whereas other initiation rites can cause terrible harm - both physically and psychologically (eg, fraternity hazing). The reason people defend their group's practices, even if they condemn similar practices in other groups, has to do with a compliance technique called "**Commitment**". Part of commitment is that once we have decided to do something and put our "foot in the door," we are less likely to back out.

When people talk about a difficult event of their life (eg, school course, job task) and later they remark, "Oh, that course was so brutal, but it made me a stronger person, a better person, thank goodness I did it." Maybe it does, however the Aronson & Mills study shows how cognitive dissonance plays a role in why one thinks that way (in large numbers).

In 1959 Eliot Aronson & Judson Mills performed a sociological experiment that examined the role that commitment and self-justification would play in having to go through an **initiation to join a group**. 63 university women volunteered to participate in a series of group discussion on the psychology of sex. 33 volunteers attended a sex group discussion which was designed to be as dull as possible (test environment). The other 30 volunteers attended an 'introductory course' in psychology which assigned them to three initiation conditions: 1) severe 2) mild and 3) control condition in which no initiation was required. In the severe condition, participants were asked to read aloud 12 obscene words as well as two explicit descriptions of sexual activity from modern novels. They read this into a microphone which they believed broadcast it to the group discussing sex. The mild initiation had participants read aloud words that though related to sex, were not embarrassing. In both cases they were told that they had performed satisfactorily and that they would now be allowed to join the 'test' group meeting. When they were in the group, the "30" volunteers found that the discussion was terribly boring and not worth the bother. This produced cognitive dissonance where one's cognition that one has gone through an unpleasant experience for the sake of membership is dissonant with the cognition that there are things about the group that the volunteer does not like. The dissonance is reduced by **exaggerating the positive aspects** of the group and **minimizing the negative aspects**.

Aronson & Mills argued that cognitive dissonance led to self-justification for liking the group. Some have criticized this interpretation because it is not possible to measure the amount of dissonance that was experienced by the participants and that there is no way to "prove" that the individual maintains two contradictory cognitions at the same time. One must also question the ethics of this experiment. At the end of the experiment the women were debriefed by the researchers. None of the participants expressed any resentment or annoyance at having been misled. The majority were intrigued by the experiment and several returned at the end of the study to obtain the results.

### 3) Impressions of Others

Key first impressions of talking with others you do not know for a few minutes: **sociable, good-natured, responsible, calm, intellectual** (traits of extraversion, conscientiousness). The rating of unknown others is like how the person rates themselves.

OCEAN model: Openness to Experience, **Conscientiousness, Extroversion**, Agreeableness, Neuroticism (pg. 14).

Once the first impression has been made – the ‘ship has sailed’. People can change the impression, but typically do not. Issues: short-cuts in judging people; done very quickly & unconsciously.

Self-fulfilling Prophecies: Automatic activation of negative stereotype → Treat target poorly →

Target behaves poorly in response → Negative stereotype confirmed.

Physical attractive people are judged more intelligent, competent, sociable and moral. A child's misbehavior is judged upon *environmental* circumstances if more attractive and upon *personality* if less attractive.

#### Baby-Face Bias

People and things with round features, large eyes, small noses, high foreheads, short chins, and relatively lighter skin and hair are perceived as babylike and, as a result, as have babylike personality attributes: naivete, helplessness, honesty, and innocence. The bias is found across all age ranges, cultures and many mammalian species.

Halo Effect: global evaluation about a person bleeds over to a specific trait (eg, ‘she is likable, so she is intelligent”).

### 4) Cultural Differences (cultural psychology)

Two world views: 1) independent view of self, 2) interdependent view of self.

U.S. is seen as a fantastic outlier in the “Degree of Individualism.”

#### Relative vs. Absolute Size experiment

American Subjects: more accurate for the *absolute* size.

Japanese subjects: more accurate for the *relative* size.

Not culturally taught – a way of thinking. How malleable is the trait? Fixed at birth? Malleable – living in the other culture affect one's way of thinking (ie, Americans living in Japan after awhile score on the ‘relative’ size).

Attribution Error (disposition (personality) vs. situation): Americans is a big outlier: like to attribute the actions of others to their character.

### 5) Autism

Dramatic increase in recent years: 1:110 – 1:140. Diagnosed by age 3. Increasing number for reasons not well understood.

#### Theory of Mind Deficit

Theory of mind is typically described as the ability to recognize that one has a mind, that others have minds, and that those minds are different. This definition and the idea that all and only autistic people lack theory of mind pervades psychology.

*“Those with autism can be thought of as mindblind in that they cannot imagine what others might be thinking, or even that others are thinking. . . . To them, it would be like looking at the headlights of a car to determine why the car just did what it did, or what information it is trying to convey to us.”*

– The Encyclopedia of Neuropsychological Disorders

## PART 24 – CONCLUSIONS – EVOLUTIONARY PSYCHOLOGY, HAPPINESS

### Introduction

Objective: psychology is the scientific study of human nature, mind and behavior.

Study domains: brain, perception, cognition, emotion, personality, development, social interaction, psychopathology.

### Conclusion

Why do we and others do what we do? Evolutionary psychology

How to live out lives? Happiness (Positive vs. Negative psychology)

### Brain: Triune Brain Model

1) Reptilian Complex. The basal ganglia are a group of subcortical nuclei that is situated as the base of the forebrain and top of the midbrain. Basal ganglia are strongly interconnected with the cerebral cortex, thalamus, and brainstem, as well as several other brain areas. The basal ganglia are associated with a variety of functions, including control of voluntary motor movements, procedural learning, habit learning, eye movements, cognition, and emotion. Popular theories implicate the basal ganglia primarily in action selection – in helping to decide which of several possible behaviors to execute at any given time.

2) Paleomammalian Complex (limbic system). A set of brain structures located on both sides of the thalamus, immediately beneath the medial temporal lobe of the cerebrum primarily in the forebrain. It supports a variety of functions including emotion, behavior, long-term memory, and olfaction. Emotional life is largely housed in the limbic system, and it critically aids the formation of memories.

3) Neomammalian Complex (neocortex).

The neocortex, also called the six-layered cortex, is a set of layers of the mammalian cerebral cortex involved in higher-order brain functions such as sensory perception, cognition, generation of motor commands, spatial reasoning and language. In the human brain, the neocortex is the largest part of the cerebral cortex, which is the outer layer of the cerebrum, with the allocortex making up the rest.

### Evolutionary Psychology – Sex, Race

In 2008 Barack Obama competed against Hillary Clinton for the US presidency. Psychologist were asked what was the worst problem – sexism or racism?

Implicit Association Test (IAT) – both remain a problem (IAT: pg. 17)

Evolutionary Psychology – sexism is more persistent because it is in our species; racism is culturally specific and more malleable.

Gender Differences in Receptivity to Sexual Offers (R.D. Clark, E. Hatfield). Journal of Psychology & Human Sexuality (1989).

Experiment: women asking men and vice versa on three types of questions that relate to sex.

Question	Responders	
	Man ask Women	Women ask Man
Go on a Date?	50%	50%
Go to my apt?	6%	69%
Have sex with me?	0%	75%

### Happiness

Aristotle – “The Objective of Life” – *“we chose it for itself, and never for any other reason.”*

Thomas Jefferson – Declaration of Independence

*“We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty and the pursuit of Happiness.”*

Amazing that “Life & Liberty” ranks among “pursuit of Happiness”.

How is happiness measured? We do not have a better happiness test than to just ask the person.

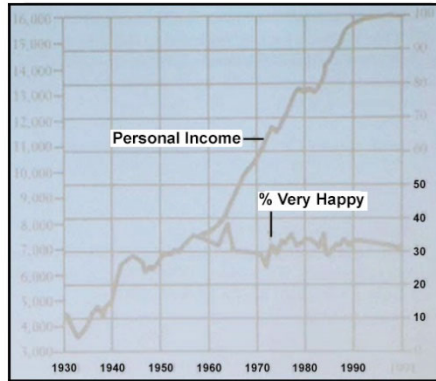
Sonja Lyubomirsky (Ph.D. Social Psychology) - Subjective Happiness Scale

Q1: In general, I consider myself: 1: not a very happy person, 7: a very happy person.

Q2: Compared with most of peers, I consider myself: 1: less happy, 7: more happy.

Q3: Some people are generally very happy. They enjoy life regardless of what is going on, getting the most out of everything. To what extent does this characterization describe you? 1: not all, 7: a great deal

Q4: Some people are generally not very happy. Although they are not depressed, they never seem as happy as they might be. To what extent does this characterization describe you? 1: not at all, 7: a great deal



### Income-Happiness Trendline

1930 to 1990: rising personal income.

1930 to 1964: rising % 'Very Happy' trend (peak in 1964: ~38%)

1964-1990: ~33%

The idea that money cannot buy happiness has been disproved by science, at least up to a point. A Princeton University study reveals that happiness does increase with wealth, but the correlation peaks at an income of \$75,000 per year. The lower a person's annual income falls below that benchmark, the unhappier one feels. But no matter how much more than \$75,000 people make, they do not report any greater degree of happiness.

Extroverts tend to be happier than introverts.

Can people be too happy? The highest levels of happiness are related to those most successful in close relations and volunteer work. Slightly lower levels of happiness are related to most successful for income, education and political participation.

Another 'happiness' perspective: balance between the physical, mental/emotional and spiritual.

Cognitive & Affective Forecasting (pg. 3). How good are people predicting what will make them happy? Most people think about achieving & succeeding rather than fumbling or failing.

Scripts in the Head

"If I don't get tenure, I will be sad...if I do get tenure, I will be happy". Result: two years later – no difference.

"If I win the lottery, I will be happy!" Result: a year or two later, no difference.

Physical Trauma

Accident leading to quadriplegia or paraplegia. Result: return to typical ratings in 3 months.

What research finds...

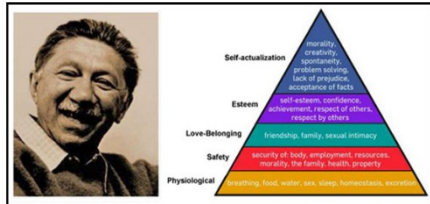
- Time on nurturing relations with family & friends
- Expressing gratitude and helping others
- Practice optimism about future
- Savor life, in the present
- Physical exercise
- Commitment to lifelong goals & ambitions
- Coping / Resilience



## Positive Psychology

Positive psychology is a branch of psychology focused on the character strengths and behaviors that allow individuals to build a life of meaning and purpose—to move beyond surviving to flourishing. Martin Seligman (author of "Character Strengths & Virtues", a 'positive' counterpart to the DSM), often regarded as the father of positive psychology, has described multiple visions of what it means to live happily, including the Pleasant Life (Hollywood's view of happiness), the Good Life (focused on personal strengths and engagement), and the Meaningful Life (Golden Seat).

## Maslow's Hierarchy of Needs



Abraham Maslow (1908-1970) first introduced his concept of a hierarchy of needs in his 1943 paper "A Theory of Human Motivation". While some of the existing schools of thought at the time (such as psychoanalysis and behaviorism) tended to focus on problematic behaviors, Maslow was much more interested in learning about what makes people happy and the things that they do to achieve that aim.

Maslow believed that people have an inborn desire to be self-actualized, that is, to be all they can be. To achieve these ultimate goals, however, a number of more basic needs must be met such as the need for food, safety, love, and self-esteem.

There are five different levels of Maslow's hierarchy of needs.

- 1) Physiological. Things that are vital to our survival (food, water, breathing, homeostasis).
- 2) Safety (financial, health & wellness, against accidents & injury)
- 3) Social (friendships, romantic attachments, family, social, community & religious groups)
- 4) Esteem. Need for appreciation and respect. Feelings of accomplishment and prestige. Personal worth.
- 5) Self-actualization. The full use and exploitation of talents, capabilities, potentialities, etc. Self-aware of one's personal growth, less concerned with the opinions of others and interested in fulfilling their potential.

Critical notes: some research has shown support for Maslow's 'Need Hierarchy' and other research has not been able to substantiate the idea of a 'needs hierarchy'. Contrarians claim that the theory is difficult to test scientifically (counter: "It is amazing how much medicine is not science-based", pg. 20).

Regardless of these criticisms, Maslow's Hierarchy of Needs represents part of an important shift in psychology. Rather than focusing on abnormal behavior and development, Maslow's humanistic psychology was focused on the development of **healthy** individuals.

