

# Psych100-module 1: the science of psychology notes

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## PSYCH100-Module 1: The Science of Psychology Notes

----- Textbook pg 2-27 Psychology \* Scientific study on causes of behavior Causal Event \* Event that causes another event to occur Different Fields of Psychology \* Physiological Psychology \* Studies the physiological basis of behavior \* Mainly through the nervous system \* Learning \* Memory \* Sensory process \* Emotional behavior \* Motivation \* Sexual behavior \* Sleep \* Strongly connected in understanding drug use/addiction \* Comparative Psychology \* Studies behaviors of organisms to understand adaptive/functional significance of behaviors and their relation to evolution \* I. e. Inherited behavioral patterns \* Courting/mating \* Predation/aggression \* Defensive behaviors \* Parental behaviors \* Behavioral Analysis \* Studies effect of the environment on behavior \* Effects of consequences of behaviors on the behaviors themselves \* Belief that the relationship between the behavior and some consequence event is an important cause of a behavior \* I. e. Cause and effect \* Behavior with pleasant results are repeated \* Behaviors with unpleasant results are unrepeatd \* Strongly related to drug use/abuse \* Behavior Genetics \* Studies role of genetics in behavior \* No two people will ever be the same \* Examine physical/behavioral similarities in blood relatives \* Cognitive Psychology \* Studies complex behaviors/mental processes \* Perception \* Attention \* Learning/memory \* Verbal behavior \* Concept formation \* Problem solving \* Events that cause behavior consist of functions of the human brain that occur in response to environmental events \* Used to treat drug addiction by teaching coping strategies \* Cognitive Neuroscience \* Studies to understand cognitive psychological by studying brain mechanisms

responsible for them \* I. e. Study behavior of people whose brains have been damaged naturally \* Diseases \* Tumours \* Strokes \* Developmental Psychology \* Studies the changes in behavioral, perceptual, and cognitive capacities of organisms as a function of age and experience \* I. e. Studying the effects of aging \* Helps how drug-taking behavior can change over time \* Social Psychology \* Study of the effects people have on each other's behavior \* Also plays a role in drug addiction \* I. e. Kids who start smoking because of pleasure; instead it is the opposite \* Smoke because peers do/social influences \* Personality Psychology \* Categorize/understand the causes of the individual differences in patterns of behavior \* Personality can also determine how susceptible a person is to drugs \* Evolutionary Psychology \* Explains behavior in terms of adaptive strategies that specific behaviors provided during the evolution of a species \* Use natural selection as a guiding principle \* Must trace development of differences in species and explore how adaptive advantages relate to human behavior \* Possibility that addictions are caused by processes not working in our benefit but interact harmfully with respect to certain substances that were not originally part of the early human environment \* Cross-Cultural Psychology \* Studies the effect of culture on behavior \* Different cultures have different strategies to interact with environment \* Laws/Customs \* Myths \* Religious beliefs \* Ethical principles \* Can be related to drug use \* Some cultural customs may involve drugs \* Clinical Psychology \* Investigation/treatment of abnormal behavior/psychological disorders \* Most clinical psychologists are practitioners who try to help people solve their problems \* The rest are scientists looking for causal events both genetic and physiological, and

environmental factors (parental upbringing), and other social stimuli \* Done to improve psychotherapy methods Different Professions of Applied Psychology

TYPE OF PSYCHOLOGIST	AREA OF APPLICATION	EMPLOYMENT SETTING
Clinical neuropsychologist	Identify/treat behavioral consequences of nervous system disorders/injuries	-Hospitals
Clinical psychologist	Identify/assess/treat psychological disorders	-Private practice-Hospital
Community psychologist	Welfare of people in social system; disadvantaged	-Community organizations
Consumer psychologists	Motivation/perception/learning/purchasing behavior of people in the marketplace	-Corporations-Advertising agencies
Engineering psychologists/Ergonomists	Perceptual/cognitive factors in the use of machinery	Corporations/engineering agencies
Forensic psychologists	Behavior as it relates to legal/justice system	-Private law firms-Public agencies*Both in justice system
Health psychologists	Behavior that affects health/lifestyle	-Hospitals-Government-Corporations
Organizational psychologists	Behavior in individual in industrial work processes	-Corporations-Government
School psychologists	Behavioral issues of students in school setting	-Corporation-Government-Educational

Philosophical Roots of Psychology \* Most important idea of the human behavior is the self-awareness of being conscious \* With this awareness we relate it to our behaviors \* Consider alternatives \* Makes plans \* Act on plans \* Animism \* Belief that all animal and all moving objects possess spirits providing their motive force \* PSYCHOLOGY AS A SCIENCE MUST BE BASED ON THE IDEA THAT BEHAVIOUR IS STRICKLY SUBJECT TO PHYSICALS LAWS LIKE EVERY OTHER NATURAL PHENOMENON \* I. e. When dropped, rocks fall

to the ground due to gravity, not because their spirits want to reconnect with the Earth's spirits \* Rene Descartes (1596-1650) \* French philosopher/mathematician \* Investigated natural phenomena through sensory experience and human reasoning \* Assumed world was a purely mechanical entity \* Ran its course without divine intervention from God \* Challenged the Church's idea that philosophy was to reconcile human experiences with the truth of God's revelations \* Thought animals and humans was a machine affected by natural causes and producing natural effects \* I. e. Reflexes \* Automatic response to a stimulus \* I. e. blinking of the eye when an object approaches \* Proposed that the human mind was not part of the natural world \* Obeyed different laws \* Gave birth to DUALISM \* Belief that reality can be split into mind and matter \* Suggested that a causal link between the mind and its physical housing \* Refused to deny a spiritual basis to human actions \* John Locke (1632-1704) \* Replaced Descartes rationalism (pursuit of truth through reason) with EMPIRICISM \* Pursuit of truth through observation and experience \* Locke implied that at birth our minds were empty and open to the writings of experience \* George Berkeley (1685-1753) \* Knowledge of events in the world requires inferences based on accumulation of past experiences \* WE MUST LEARN TO PERCEIVE\* \* James Mill (1773-1836) \* Introduced MATERIALISM \* Belief that reality can only be known through an understanding of the physical world which the mind is a part of \* Assumed that animals and humans were the same \* Both were physical in makeups and subject to the physical laws of the universe \* Believed that the mind was as passive as the body \* The mind was like a machine Biological Roots of Psychology \* Luigi Galvani (1737-1798) \* Italian

psychologist \* Discovered muscles contracted by applying an electrical current directly to them or to the nerves attached to them \* Muscles contained energy needed to contract \* Did not have to be inflated with pressurized fluid \* Johannes Muller (1801-1858) \* Came up with the doctrine of specific nerve energies \* Different nerve fibers convey specific info from one part of the body to the brain or from the brain to one part of the body \* Noticed that the basic message sent along all nerves was the same electrical impulse \* Stated the brain interprets impulses received from the nerves as visual sensations because optic nerves are attached to the eye \* The brain is similarly specialized, with different parts having different functions \* Pierre Flourens (1774-1867) \* French physiologist \* Operated on parts of the animal nervous system \* Observed what the animal could no longer do without certain parts and assumed that part for the particular missing functions \* Experimental ablation \* Removal/destruction of a portion of the brain of an experimental animal for the purpose of studying the functions of that region \* Claimed to have discovered regions of the brain that control: \* Heart rate/breathing \* Purposeful movements \* Visual auditory reflexes \* Paul Broca (1824-1880) \* French surgeon \* Performed autopsy on the brain of a man who had a stroke several years previously \* Stroke had caused the man's ability to speak \* Discovered the stroke damaged part of the cerebral cortex of left side of the brain \* Suggested that this region of the brain is a center for speech \* Gustav Fritsch & Edward Hitzig (1870) \* Introduced using electrical stimulation as a tool for mapping the functions of the brain \* Later discovered by Canadian neurosurgeon Wilder Penfield that highly specific sensory experiences and even memories could be mapped in a similar way \*

Hermann von Helmholtz (1821-1894) \* Demonstrated that mental phenomena could be explained by physiological means \* Also concluded that too much variability between people to measure the speed of a person's reaction to a physical stimulus \* Ernst Weber (1795-1878) \* Introduced the idea that perceptual phenomena could be studied scientifically (like biology or physics) \* Directly related to PSYCHOPHYSICS \* Measures the quantitative relation between physical stimuli and perceptual experience \* DETERMINISM \* Doctrine that behavior is the result of prior events \* Law of Effect \* Observed by Edward Thorndike (1874-1949) \* Stimuli that occurs as a consequence of a response can increase or decrease the likelihood of making that response again \* Goals were satisfiers that caused the action to recur more frequently