

Learning theory and behaviorism

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Learning Theory and Behaviorism October 16, 2012 Wundt's Structuralism: • Goal was to analyze the structure of conscious experience into its elements and components and their associative relationships. It was a form of mental chemistry • Developed of the technique introspection, which requires trained introspectionists to look inward and describe/analyze the contents of their experience to a stimulus word • Edward Titchner brought structuralism to the U. S. Cornell university listing 1000's of elements of consciousness William James: • James studied with Wundt, but rejected a static description of the elements of the mind. James thought the mind and consciousness to be adaptive function that evolved just as any other adaptive function • Therefore, proper study of the mind is to relate its characteristics to purposeful, adaptive behavior. • Hence the rise of functionalism. James was professor of psychology at Harvard Principles of Psychology: • James wrote this Titles were stream of thought, memory, reasoning, emotion, will, effects of experience Edward Thorndike: • In the late 1800s at Harvard, drawing from James and functionalism and also Darwin's ideas of evolution of species and their adaptation to environment, he studied the progress cats made in solving a puzzle by learning a desired that is instrumental in bringing about desired outcome • Notion of stimulus-response (reflexive vs. rational) was already firmly in the thinking of leading philosophers at the time, in the field of education Ivan Pavlov: In 1904, Pavlov received the Nobel prize for his work on the chemistry of digestive juices in saliva • His work with dogs required gathering large amounts of saliva for chemical analyses. Done through a tube surgically implanted in dog's salivary gland and then stimulating salivation with dried meat powder Unconditional.... • Dried meat powder is an

unconditional stimulus (UCS) in that it always triggers the response of salivating. We call the response unconditional response (UCR).

Needs no learning • Many pleasure, pain, and emotional responses and tastes and smells are unconditional
Psychic Reflex: • Pavlov and associates observed that dogs would often begin salivating before they were harnessed and before the meat powder • Pavlov switched his path of study this psychic reflex • Studies are among the most famous in psychology. Type of learning he describes is known as “ classical condition” or “ glandular conditioning”
Conditional.... Stimulus in effect becomes a signal that the dog will be harnessed, presented with the meat, and will be salivating. • The dog must perceive this connection. Its meaning and power as a signal depends on its reliability. Its meaning and power are conditional on its place in time and its frequency in the sequence, becoming conditional stimulus (CS). The psychic reflex becomes a Conditional response. Prior to perception of a connection to the UCS, all events are neutral in meaning with respect to UCS.

Conditioning involves responding to a CS with a CR in anticipation of the occurrence of the UCS-UCR pair. Learning: • Conditional response (CR) is the learned response to the conditional stimulus (CS) which gained meaning to the extent it anticipates the UCS-UCR pair. The CR is potentially a adaptive response, a preparatory response • The UCS-UCR pair do not re-occur, then the power of the CS to trigger a CR is weakened. The CS no longer bring about the CR-extinction. Higher order conditioning: The CS must occur fairly closely in time to the UCS-UCR pair- interstimulus interval (CS & UCS) • However once a CS has gained the power to anticipate the UCS, other neutral stimuli close in time to the CS will become conditioned. A CS signal

the next CS, which signals the next CS and so on until the original CS signals the UCS-UCR pain-higher order conditioning. Historical context:

- The pressure of universal education brought pressures for psychologists and educators to study the processes of learning
- Alfred Binet (advocate from France) developed a test to measure abilities so as to place students in the proper grade.

Concepts of 'intelligence' and IQ soon followed

- Darwin's theory of evolution suggests that as a species of human beings evolved from lower forms of animal life. Though the gap between animals and human life remained wide in terms of language, thought, and civilization, question was just how intelligent are animals, are they closer to humans are intelligent than animals lower
- Industrial revolution; post revolutionary Russia and USA saw an ability to take classless societies and make it a brighter and stronger future, training an efficient workforce.

John B. Watson: 1878-1958

- Studied animal intelligence. He sought to move psychology more toward the empirical, deterministic physical sciences
- Empirical, means of the senses of implying data used in the science is observable, public, and objectively measured. Determinism implies a search for theories of cause and effect, identification of Aristotle's immediate cause

Behaviorists in control:

- Reshaping human society in the US and Soviet Union

Philosophical behaviorism: belief that consciousness was an epiphenomenon

- Methodological behaviors: belief that observable objective measures of behavior are better over introspective self-report

Operant Conditioning:

- Skinner says the probability of a response to the correct stimulus is more or less equal to that of any other response to other

available stimuli. If the response to a stimulus brings about desired consequence, then the sequence of stimulus-response more likely repeated.

Trial and error is as an equal probability for all possible responses on Trial 1

Terms: • Reinforcer: sequence of stimulus-response consequence; makes stronger the bond between the stimulus and the response • Operant or

instrumental response: behavior which bring about the consequence •

Skinner prefers to understand reinforcement as that which changes the probability of the response to the stimulus Reinforcer vs. Reinforcement:

Reinforce is an event, a consequence that follows the response to a stimulus and is perceived to be connected to the response • Reinforcement is a state

of being that arises from the act of consuming or enjoying • Positive

reinforce is a positive rewarding consequence to response to a stimulus; all

is good and you'll do it again • Negative reinforcer is a painful consequence to

the response to a stimulus; decreases probability of the response to that

stimulus • In negative reinforcement sequence is stimulus, response,

negative reinforcerm escape response(which removes negative reinforce)

positive reinforce.

Total package: negative reinforcement. Probability of an escape/avoidance response is increased and the 1st response is decreased. Primary and

secondaryreinforcer: • Primary: natural; one that does not have to be learned.

Satisfy biological needs like hunger, thirst • Secondary: consequence whose value must be learned through experience; come through socialization and

subsequent learning • Primary positive reinforcer: satisfies a natural need

(foodif you're hungry, water if thirsty) • Primary negative reinforcer: causes

physical pain and discomfort (injury, illness) • Secondary positive reinforcer: satisfies social and psychological needs (good grade, smile, kiss) • Secondary negative reinforcer: socially punishing (failing grade, public slander, rejection letter) Classical and instrumental combined: A primary positive reinforcer= unconditional stimulus that follows some behavioral conditional response to conditional stimulus. • Conditional stimulus is a secondary positive reinforcer Contingency: • connection between a stimulus, response, and a consequence. One perceives the stimulus and performs the response expected • extinction: when stimulus no longer elicits a response b/c reinforcer no longer appears • superstition: one perceives a contingency when in fact there is none • helplessness: perceiving no contingency between a stimulus and a response and any desirable consequence, making no response • fixed ratio: pattern is predictable • variable ratio: pattern is random Resistance to extinction: • skinner defines strength of learning as how resistance the acquired response to a stimulus is to extinction • variable ratio schedule maintains responding far longer than fixed ratio • fixed interval schedule gives reinforcer to the last response as a certain interval of time elapses Psychological and emotional disorders A behavioral analysis of psychological & emotional disorders includes the assumption that the symptoms (inappropriate behaviors, thoughts, or emotions) are acquired in a learning environment (i. e. not due to genetics or physiological dysfunctions or unconscious conflicts). • Behavior therapy tries to extinguish the inappropriate responses to stimuli & train appropriate responses. Behavioral analysis of a phobia • Phobia = learned, “acquired fear” o Intense fear or anxiety reaction to an event, classically conditioned by exposure to frightening, threatening, or painful stimulus. Instrumentally conditioned <https://assignbuster.com/learning-theory-and-behaviorism/>

escape/avoidance behavior that takes very few trials, maybe only one trial to learn

Obsessive compulsive disorder • Obsessive state = intense drive state, often accompanied by images, thoughts, memories, desires, etc. related to drive state an identity • Compulsive = behavior that corrects for or deals w/ the threat to the driving identity. Ritualized by repetition & success at keeping anxiety at bay. • Compulsive behavior may originate in two ways: o 1.

Person once praised for something & now seeks praise to maintain good feeling o 2. Person once punished for something & thus becomes anxious when this event occurs and does whatever to avoid punishment

Behavioral analysis of anxiety and conflict • The conflict of drives, stimuli, responses & consequences will result in indecision, inefficiency, & anxiety. Dollard & miller list the following: • An approach-approach conflict: where two mutually exclusive positive consequences follow a response to two similar stimuli.

The greater the emotional importance of the choice & the greater the finality (or temporal impact) of the choice, the greater the conflict: o Choosing whom to marry vs. choosing which friend to call o Choosing a book to read vs. choosing a film to watch on a weekend night o Choosing a car/house to buy vs. choosing a brand of frozen pizza to buy in the store • An avoidance-avoidance conflict: where two mutually exclusive negative consequences follow a response to two similar stimuli. Resolved in a manner similar to approach-approach. Choosing to cope with knee pain or having knee surgery o Choosing to write a paper or study for a test o Choosing any math course • An approach-avoidance conflict: where two aspects of the “ same” stimulus are in contradiction, one positive, one negative. o Enjoying the company of a

friend, who also tends to get loud & obnoxious at parties. The conflict arises when the friend asks you to go to the party with her/him. o Contemplating a trip to Europe, but you have a fear of flying Behavioral analysis of anxiety & conflict The tension in approach-avoidance conflict in interpersonal relationships often forces a person to create a " safe-zone" in which, on the one hand, the person is not so far away from the other such that one needs to approach, but yet, on the other hand, the person is not so close that one needs to avoid the other. • Often the zone is defined or verbalized in terms of emotional involvement, interpersonal distance, intimacy, time together, mode of communication, etc. " were just friends..." meaning not lovers, cousins, or strangers. The safe zone evolves. It is negotiated b/t the two persons in the relationship to their mutual satisfaction, though true mutuality is often difficult to achieve. Also, conditions may change it over time, especially due to factors such as distance, other relationships, new info, etc. Depression • Result of a generalized learned helplessness. • Helplessness learned when most instrumental escape or avoidance responses to a primary or secondary negative reinforce fail to bring about relief through a cessation of the punishment, discomfort.

Inactivity/apathy describe lack of instrumental responses; pain, numbness, sadness are the classically conditioned emotional responses. Dissociative disorder • Dissociative disorders, such as dissociative identity disorder (splitpersonality) involves learning a new repertory of behaviors, thoughts, & emotions that are appropriate (and therefore reinforced) in a new environment along side of a previously learned repertory of behaviors,

thoughts and emotions that are appropriate in a different prior environment

- Prior environment associated w/ punishment

Schizophrenia • double bind theory of schizophrenia: child raised in a home environment of confusing/contradictory messages from at least one volatile, toxic parent. The child's behavior is not predictably right/good, wrong/bad. The child grows up never sure or relaxed, but stressed and anxious. Child emerges chronic mistrust of his or her ability to behave, think, etc. he/she learns to behave as if disconnected from reality B. F. Skinner • wrote beyond freedom and dignity - we're already living in a behavioral society.