Psyc 104: Learning
Chs 1 & 2 Intro and Methods

Intro to Learning and History

Chapter 1
Behavior and Learning

• What is *behavior*?

  – Example: Observing a child randomly pushing the buttons on a stereo

Behavior and Learning

• What is *learning*?

  • Example: Pushing volume button more when notice the change in loudness that occurs
Behavior and Learning cont.

• Why “Potential Behavior”?  
  - behavior changes are not always immediate (can be exhibited at a later time).
    • Example: the child now will begin pushing buttons on many different objects that she encounters in the future.
  
  - Every time you learn something new, you have the potential to behave differently!

Behavior and Learning cont.

• What causes these types of behavioral changes?
  - Classical Conditioning
    •  
  - Operant Conditioning
    •  
  - Observational Learning
  - Inherited patterns of behavior
    • e.g. fixed action patterns
Historical Background

- Aristotle: Empiricism and Laws of Assoc.
- Descartes: Mind-body Dualism and the Reflex
- The British Empiricists
- Structuralism
- Functionalism

- PROBLEM:

Behaviorism

- John Watson disliked previous approaches

- Wanted Psychology to be a true science

- Law of Parsimony – the simpler the explanation, the better!
- Learning is more important than genetics
5 Schools of Behaviorism

- Watson’s Methodological Behaviorism
- Hull’s Neobehaviorism
- Tolman’s Cognitive Behaviorism
- Bandura’s Social Learning Theory
- Skinner’s Radical Behaviorism
Watson’s Methodological Behaviorism

- Most extreme form
- Study
- Psychology’s “mentalism” must be stopped for the discipline to survive

Methodological Behaviorism: Role of Internal Processes

- Internal processes consist of:
  - Conscious processes
  - Unconscious processes
- Internal processes exist, BUT:
Other Characteristics of Methodological Behaviorism

• Called “S-R Theory”
• Learning:
  – Example: Lights turn off in classroom(S)-->talking stops(R)
• Mechanistic view (robotic)
• Extreme position on the nature vs. nurture issue
  • Only a few reflexes & basic emotions were inherited

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Hull’s Neobehaviorism

- Disagreed with Watson:
  - Rejected Watson’s view that unobservable events (internal processes) couldn’t be studied
  - Thought
    - Example: “thirst” defined as number of minutes since last drink
  - Believed some of these processes could mediate between the environment and behavior
    - Called these mediating processes
    - Processes were physiological (e.g., hunger and the sex drive)

Hull’s agreement with Watson

- Shared the view that Psychology’s mentalistic emphasis must go!
  - Only used internal variables that could be measured
    - Example: tired measured as # hours since sleep

- Also took a pure S-R approach to learning

- Theory was also mechanistic
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- **Tolman’s Cognitive Behaviorism**
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Tolman’s Cognitive Behaviorism

- Disagreed with Watson and Hull:
  - Analyzed behavior more holistically – NOT just as a series of S-R connections
  - Viewed behavior to be “goal directed”
  - Influenced by Gestalt psychologists
    - “Whole greater than the sum of its parts”
  - Believed that internal cognitive processes like “expectations” and “hypotheses” guided behavior instead of just physiological processes (like Hull’s view)
Tolman’s Cognitive Behaviorism

- Example: Navigating through the environment
  - Hull Says:

  - Tolman says:
    - Build up a cognitive map of the environment that is used to navigate

Intervening Variables in Tolman’s Approach

- Cognitive Map -

- 3 groups of rats
  - Given reward (R)
  - Given no reward (NR)
  - Given no reward and then after 10 days began giving a reward (NR-R)
Concepts in Tolman’s Approach

- **Latent Learning**

- Distinction between “learning” and “performance

Place learning vs response learning

- Place learning:

- Response learning:

- Results:
Concepts in Tolman’s Approach

- **Blocked Paths**
  - Rats explore a maze
  - Then food provided
    - Take Path 1 (shortest)
    - If blocked at A,
      - If blocked at B,

Ways that Tolman Agrees with Watson & Hull

- Thought it was necessary but “shameful” to have to incorporate internal processes to explain behavior

- Believed it was only okay to include internal processes because they were inferred from directly observable behavior
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Bandura’s Social Learning Theory

- Most different from Watson’s view
- Interested in the influences of
- Emphasized
  - E.g. If I also clean up my room I’ll expect to get reinforcement.
Bandura’s Social Learning Theory continued

• Believed in “reciprocal determinism”

  – For example:
    – Having aggressive thoughts can result in aggressive behavior.
    – The aggressive behavior in turn effects the environment by causing others to have aggressive thoughts and actions
    – Their actions then affect your environment and change your thoughts.

Influences of Bandura’s Theory

• Helped stimulate the development of Cognitive Theory by building on Tolman’s approach

• Laid the groundwork for the popularity of Cognitive Behavioral Therapy
  – Treatment -

  • Example: (depression) change areas in env. that cause extra stress and works to omit pessimistic thoughts

• Led to research on the influence of television (and other aspects of pop culture) on behavior
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Skinner’s Radical Behaviorism

- Another strict form of behaviorism

- Emphasized influence of environmental consequences on overt & covert behavior & rejects internal events as explanations for behavior.
  - “overt behavior”:
  - “covert behavior”:
Ways Skinner Agreed with Watson

- Disliked the increasing interest in internal processes
  - Emphasized the influence of the environment on overt behavior
  - **Rejected** the use of internal processes (or covert behaviors) to **explain** overt behavior
    - e.g. can’t use “fear” to explain running away
  - Believed “thoughts” and “feelings” were themselves behaviors that needed to be explained by environmental events
    - e.g. use being bitten by a dog to explain “fear” of dogs

Characteristics of Skinner’s View

- Emphasized environmental consequences on causes of behavior
  - e.g. baby stands up for the first time --> praised
  - Baby will try to stand up again in the future (caused by praise)

- Not as mechanistic as Watson and Hull (we’re not helplessly controlled by environment)
  - **Countercontrol** –
Research Methods:
For Outside of Class

• Understand basic definitions in boldface in text so when we refer to them they are familiar.
  – For Example:
    • stimulus & response
    • Overt & covert
    • Appetitive and aversive
    • Deprivation and satiation
    • Contiguity and contingency
    • Types of Recording Methods
    • Basic Research Designs