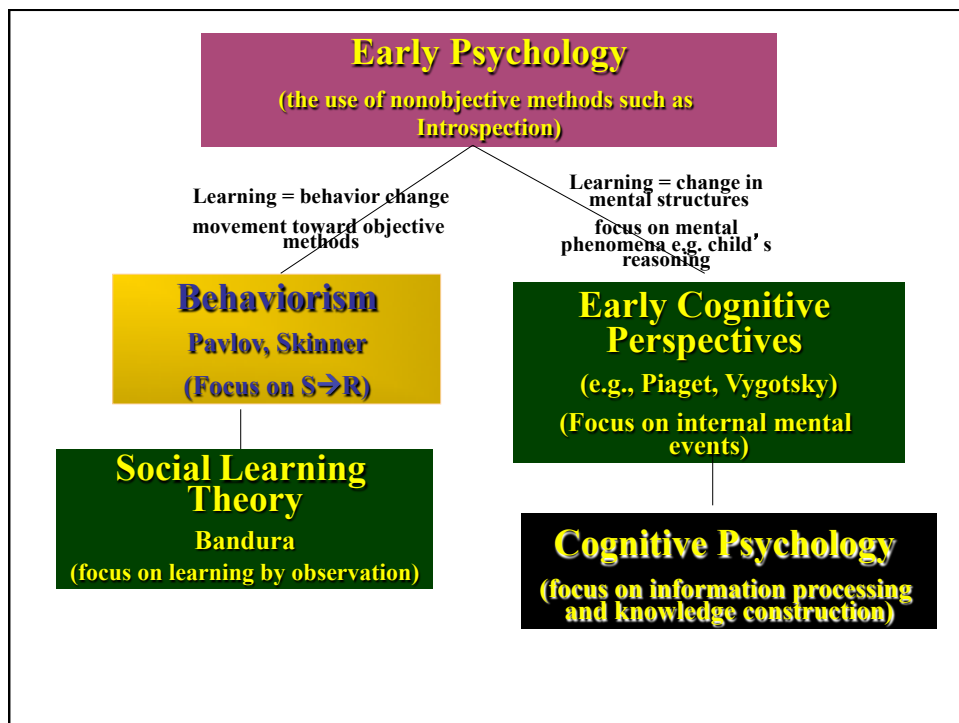


Behaviorism & Education



Origins/Purpose of Behaviorism

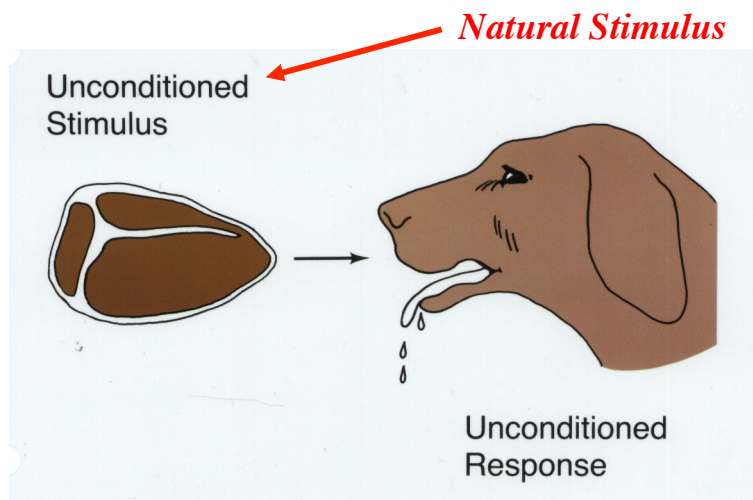
- **Arose in an attempt to make psychology a science, more objective**
- **Also referred to as traditional learning theory**
- **The focus is on changes in observable behavior**
- **Early work started with animals and transferred to humans**

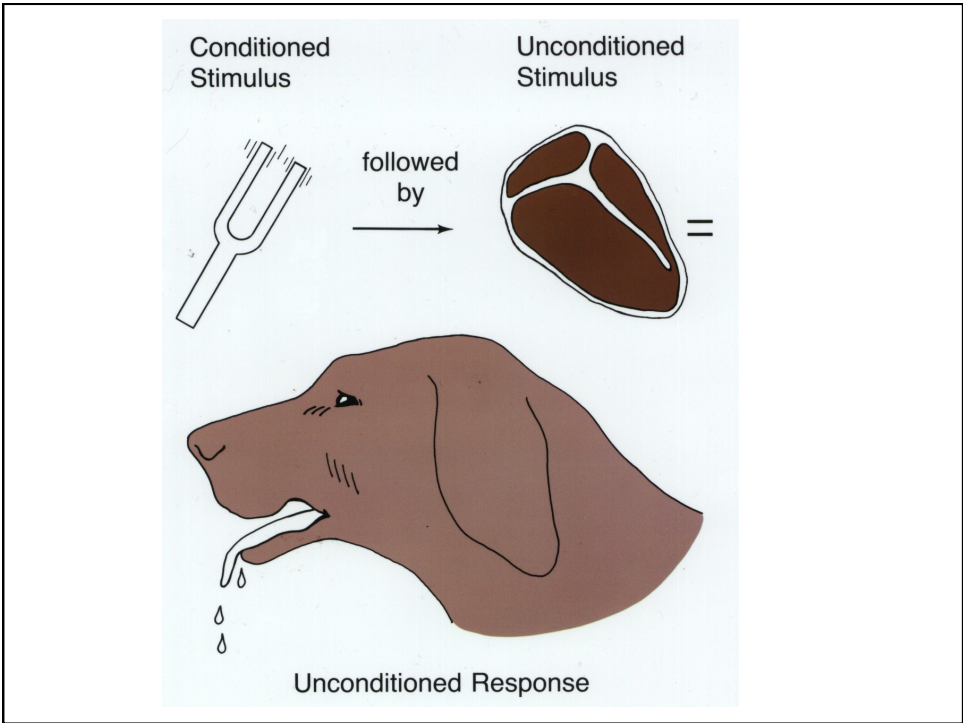
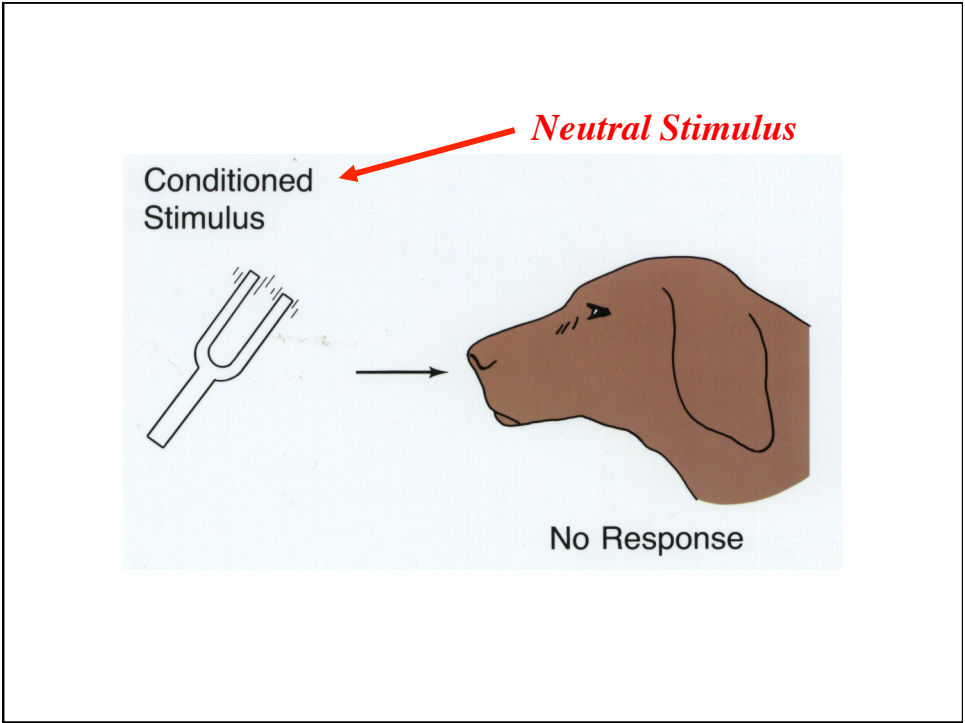
Two types of behavior

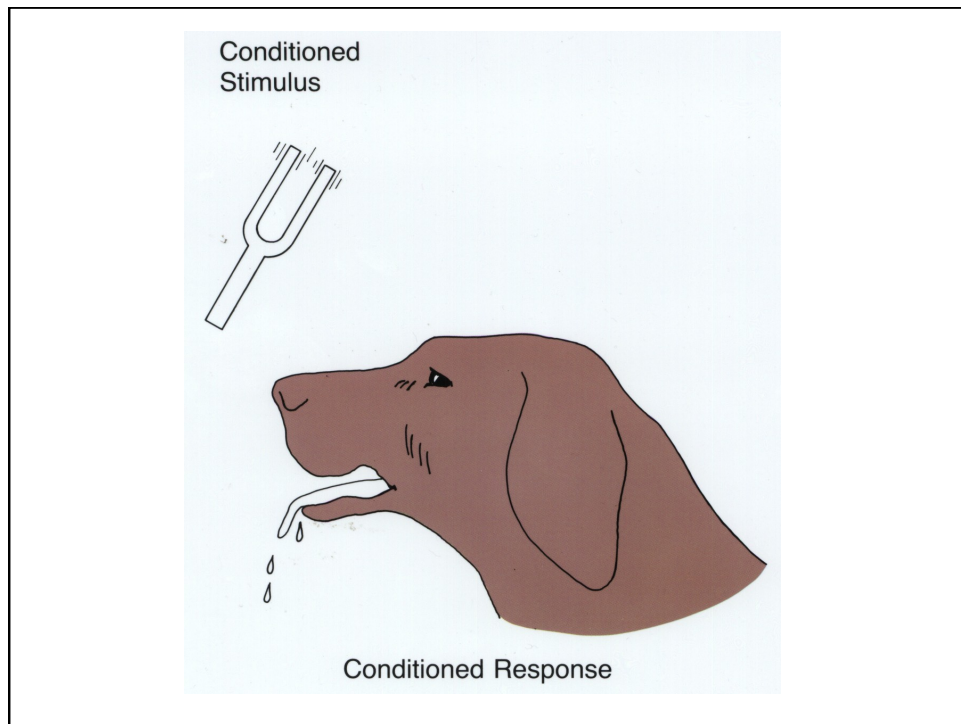
- **Involuntary--reflexes, physiological states (e.g. heart rate, often associated with emotions)**
 - **Classical conditioning**
 - **Stimuli from environment paired with reflex or physiological state to form conditioned physical or emotional responses.**
- **Voluntary-purposeful activity behavior to get something**
 - **Operant conditioning**
 - **Behavior changes that are in response to consequences**
 - **Skinner's ABC's**

The “Big 4” of Behaviorism

- Ivan Pavlov
- Edward Thorndike
- John Watson
- B.F. Skinner



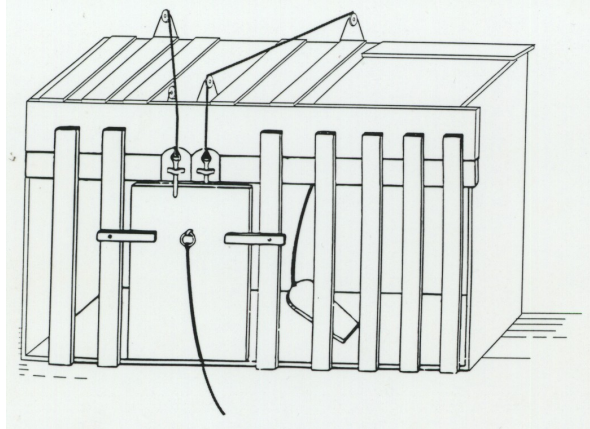




Examples of Classical Conditioning

- **Puff of air in eye paired with a tone**
- **War veterans fear/anxiety with loud noises**
- **Fear of a particular song playing during an accident**
- **Students becoming ill during a particular subject**
- **Flickering lights as a cue to be quiet**

Thorndike's Puzzle Box



Trial and Error Learning--Organisms will do what is instrumental to their benefit

Thorndike's *Law of Effect*

An act that is followed by a favorable effect is more likely to be repeated in similar situations; an act that is followed by an unfavorable effect is less likely to be repeated

John Watson . . .

- **Believed that psychology could become a science when it became possible to predict responses from stimuli; psychology should be objective & experimental**
- **Applied classical conditioning to humans**
- **Had a great influence applying behaviorism to advertising**

Important Terms/Classical Conditioning

Generalization

Conditioned response is elicited with a stimulus similar to the conditioned stimulus

Discrimination

Ability to give different responses to related but not identical stimuli

B. F. SKINNER

OPERANT CONDITIONING

OPERANT BEHAVIORS ARE ACTIONS
THAT INDIVIDUALS TAKE TO MEET THE
DEMANDS OF THEIR ENVIRONMENTS

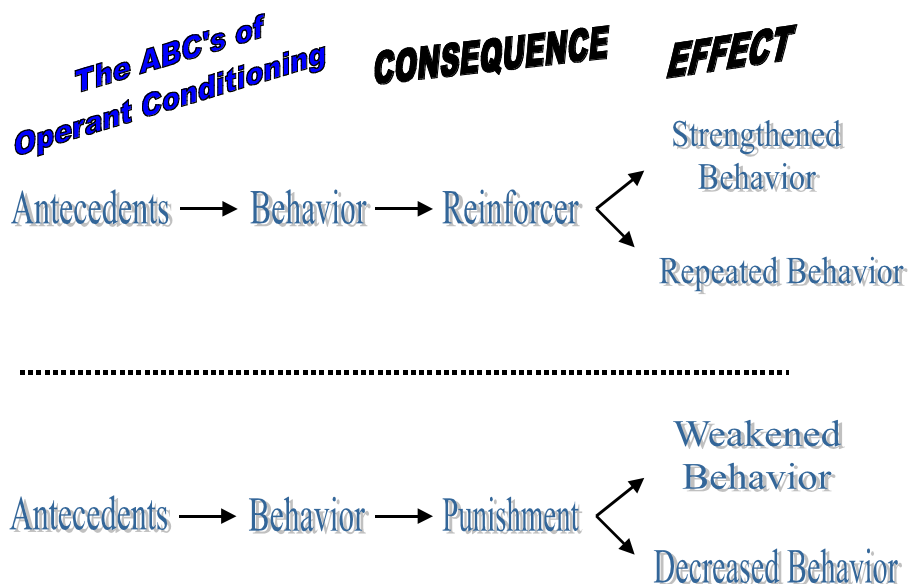
Reinforcement & Punishment

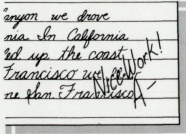



- **Reinforcer**
 - Any consequence that strengthens (increases the frequency of) a behavior
- **Punishment**
 - Any consequence that weakens (decreases the frequency of) a behavior

REINFORCEMENT

Any event following a behavior that increases the likelihood of that behavior occurring again.

“The only defining characteristic of a reinforcing stimulus is that it reinforces” (Skinner, 1953, p. 72).



Kinds of Reinforcement and Punishment		
	Behavior Encouraged	Behavior Suppressed
Stimulus Presented	POSITIVE REINFORCEMENT ("Reward") Example: good grades 	PRESENTATION PUNISHMENT ("Type I" Punishment) Example: after school detention 
Stimulus Removed or Withheld	NEGATIVE REINFORCEMENT ("Escape") Example: excused from chores 	REMOVAL PUNISHMENT ("Type II" Punishment) Example: no TV for a week 

Name that Consequence!

- Sarah's mother makes her eat soap every time she says a bad word
- Ronnie gets out of "read aloud time" by pretending that he is sick
- Ms. Thomson always praises Sylvia's high math scores in front of the class but her scores are gradually decreasing
- LaMont has to give back three bonus stars for talking to his neighbor
- The U.S. Air Force continues to improve the stealth capabilities of its bombers

Name that Consequence!

- **Kramer hears applause by all who watch him slide awkwardly through Jerry's door**
- **Andrea trains hard in track practice to become faster in order to avoid disappointing her Father**
- **Ben Johnson had to sit out of three Olympic competitions because he used steroids**
- **Teresa continues to crack jokes in class to the dismay of her teacher who always throws a fit**
- **Tina now wears bell-bottoms and retro clothing because all of her friends do too**

Antecedents

- ☞ **Setting Events**
- ☞ **Classroom Rules**
- ☞ **Classroom Schedule**--have routines, transitions
- ☞ **Room Arrangement**
- ☞ **Teacher's Attitude**
- ☞ **Lesson Plan**

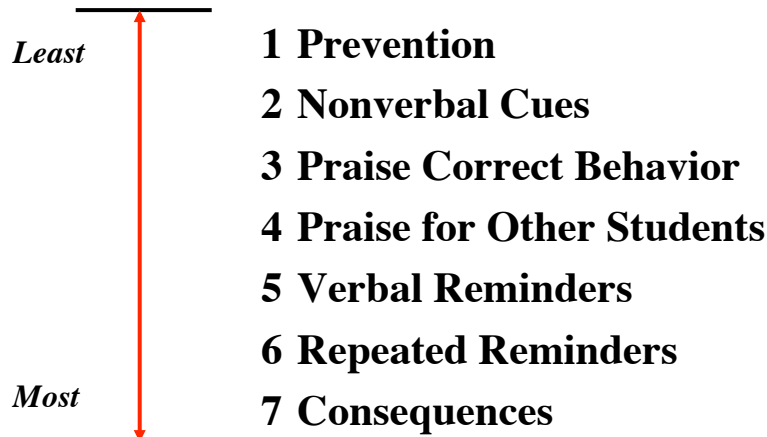
Guidelines for Preparing Rules

- **Keep class and school rules consistent**
- **State rules clearly**
- **Provide rationales**
- **State rules positively**
- **Keep the list short**
- **Encourage student input**

Setting Events

- **Physical Well Being (e.g. tiredness, illness)**
- **Emotional Well Being (e.g. personal problems)**
- **Environmental Stimuli (e.g. how warm the classroom is, lighting)**
- **Social Stimuli (e.g. who is in the class, relationships)**

Principle of Least Intervention



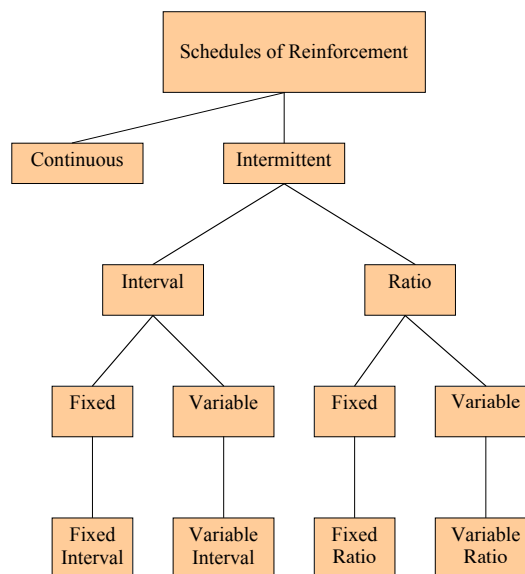
Recommendations for Reinforcement

- ☞ Reinforce immediately *following* the desired behavior
- ☞ Use the least tangible or elaborate reinforcer that will work
- ☞ Use Premack Principle or “Grandma’s Rule” --
Eat your vegetables so you may go play
- ☞ Make the reinforcement process informational
- ☞ Try reinforcement before punishment if possible
- ☞ Use reinforcement to *shape* behavior

The Process of Shaping

- **First, reinforce any response that in some way resembles the target behavior**
- **Then reinforce a response that more closely approximates the target behavior (no longer reinforcing the previously reinforced response).**
- **Then reinforce a response that resembles the target behavior even more closely**
- **Continue reinforcing closer and closer approximations to the target behavior**
- **Finally, reinforce only the target behavior**

Schedules of Intermittent Reinforcement



Intermittent Reinforcement Schedules

Fixed Interval

Reinforcement after set period of time

Examples

- Weekly Quiz
- Preparing for class to start everyday
- Shopping for Holiday or Birthday gifts
- Praising a hyperactive child every 15 minutes for appropriate classroom behavior
- Feeding your pets every morning

Response Rate

- Increases as time for reinforcement approaches, then drops off after reinforcement

Intermittent Reinforcement Schedules

Variable Interval

Reinforcement after varying lengths of time

Examples

- Pop Quizzes
- Telling students that their projects that they are working on will be graded in “a few days”
- A pigeon being reinforced on a random time basis for pecking at a panel that lights up
- Giving your students tokens for being on task at different times during the day

Response Rate

- Slow, steady rate of responding; very little pause after reinforcement

Intermittent Reinforcement Schedules

Fixed Ratio

Reinforcement after set number of responses

Examples

- ✓ Paying workers \$50 for every car they paint
- ✓ Giving a pizza coupon for every third book read
- ✓ Giving a struggling speller computer time for every 10 new words spelled correctly
- ✓ Receiving an advanced colored belt in karate after meeting the requirements at each stage
- ✓ Receiving recognition pins for writing your 5th, 10th, & 25th essays

Response Rate

Rapid response rate; pause after reinforcement

Intermittent Reinforcement Schedules

Variable Ratio

Reinforcement after varying # of responses

Examples

- ✓ Playing slot machines
- ✓ Telemarketers calling to solicit credit cards
- ✓ A dog occasionally getting a bone after begging
- ✓ Students being called upon at random when raising their hands
- ✓ Maintaining a high level of academic performance because of occasional praise from a respected teacher

Response Rate

Very high response rate; little pause after reinforcement

Punishment should be:

- 1. Mildly unpleasant**
- 2. Short in duration**
- 3. Applied as soon as possible after the behavior**

Examples of Effective Punishment

- ☞ Time Out**
- ☞ Response Cost**
- ☞ Verbal Reprimand**
- ☞ In-house Suspension**

Examples of Punishment to Avoid

- ✚ **Physical Punishment**
- ✚ **Psychological Punishment**
- ✚ **Extra Classwork**
- ✚ **Suspension from School**

Guidelines for Using Punishment

- **Choose punishment strong enough to discourage the behavior but not overly severe**
- ***Don't Bluff***
- **Explain why the behavior is unacceptable**
- **Teach and reinforce desirable alternative behaviors**

Potential Problems in Using Punishment

- When a behavior is punished in one situation, it may increase in another situation (one in which it is *not* punished)
- Punishment often conditions negative emotional responses and may lead to escape and avoidance behaviors
- Punishment may lead to aggression
- Punishment does not illustrate the correct behavior
- Severe punishment may cause physical or psychological harm

Satiation

Reinforcer is overused to the point that it loses its potency

Extinction

Behavior decreases because it isn't being reinforced

Be Prepared for the *Extinction Burst*!

Applied Behavior Analysis

- 1. Identify target behavior(s) & reinforcer(s).**
- 2. Establish a *baseline***
- 3. Choose a reinforcer and criteria for reinforcement**
- 4. If necessary, choose a punisher & criteria for punishment**
- 5. Observe behavior during program implementation & compare to baseline**
- 6. When the behavior management program is working, reduce the frequency of reinforcement**

Effect of Rewards

- Praise, if used correctly, can increase intrinsic motivation by being informational**
- Give unexpected rewards**
- Avoid tangible rewards for something the student already finds interesting**
- Rewards may decrease intrinsic motivation when given for simply engaging in an activity. Rewards should be contingent upon meeting a standard or advanced level of performance**