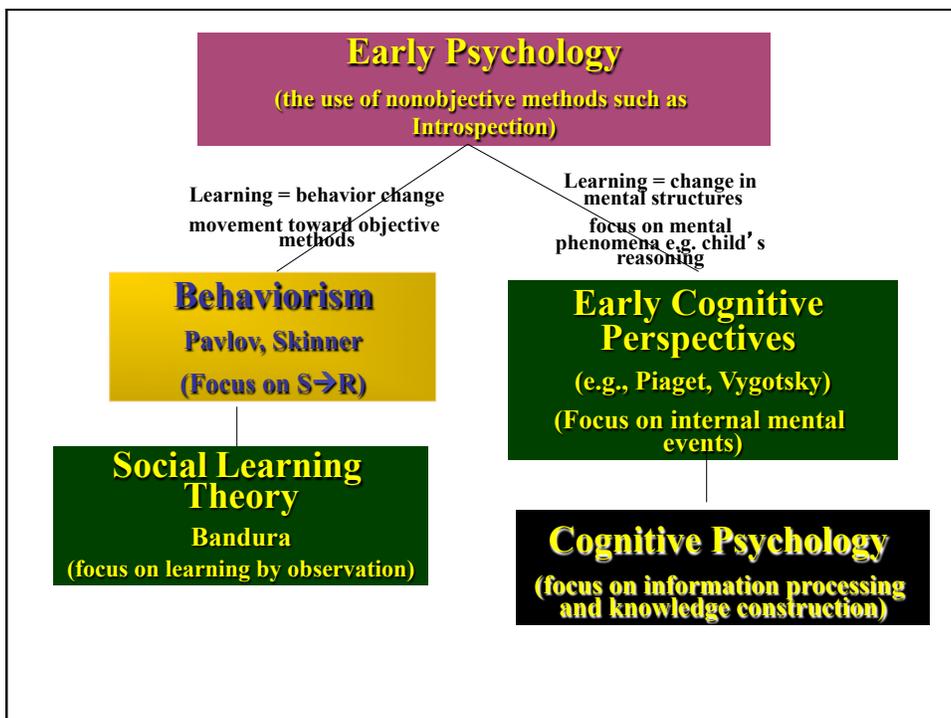


# ***Behaviorism & Education***



## **Origins/Purpose of Behaviorism**

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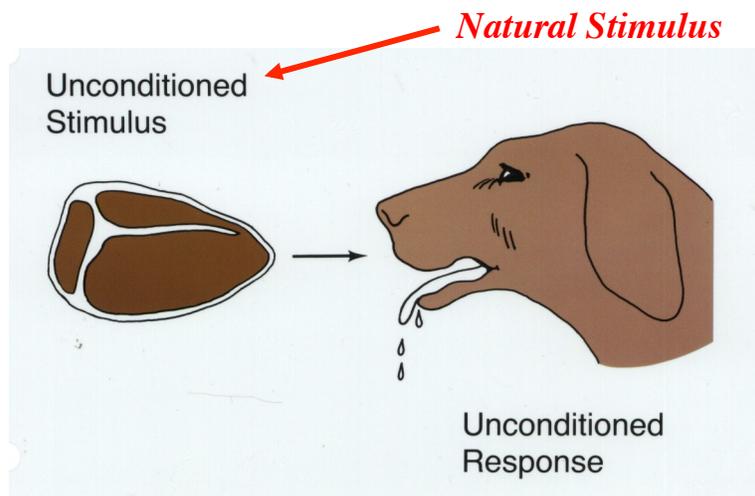
- **Arose in an attempt to make psychology a science, more objective**
- **Also referred to as traditional learning theory**
- **The focus is on changes in observable behavior**
- **Early work started with animals and transferred to humans**

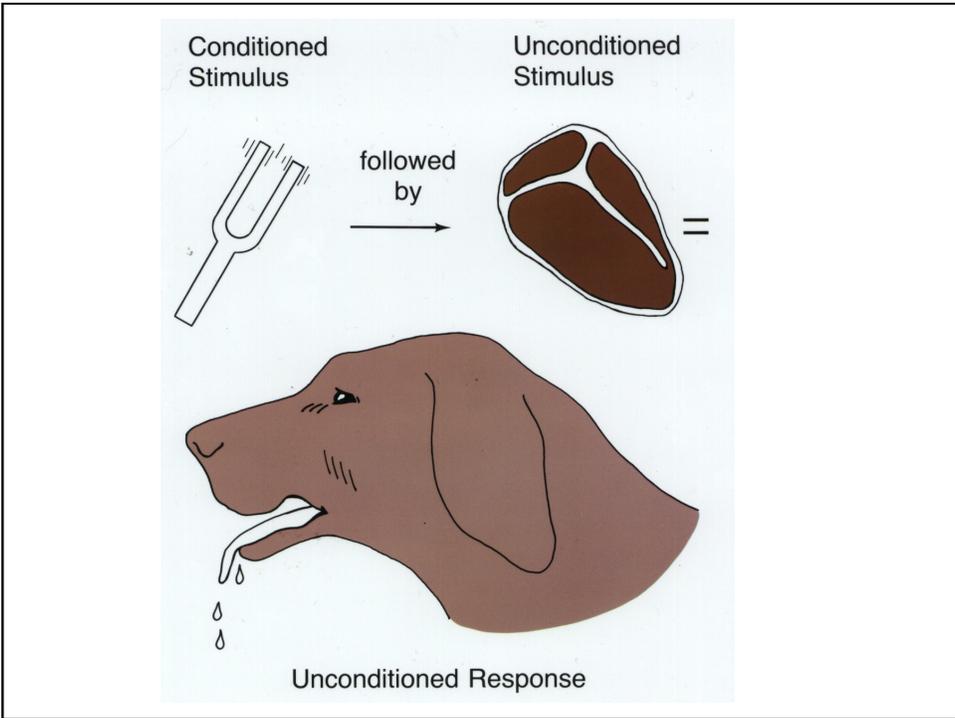
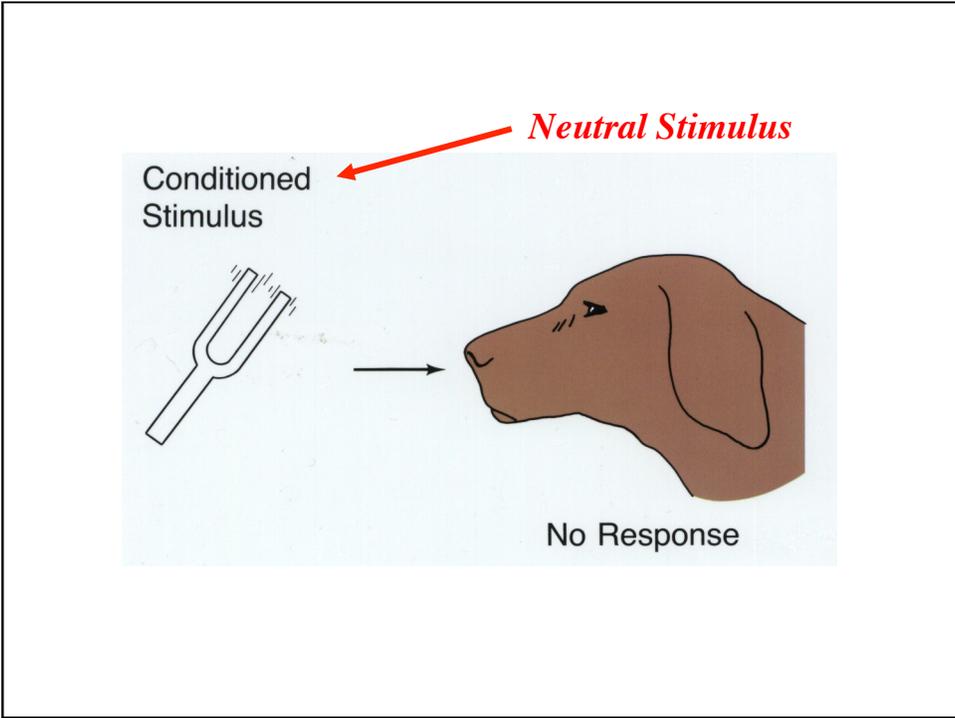
## **Two types of behavior**

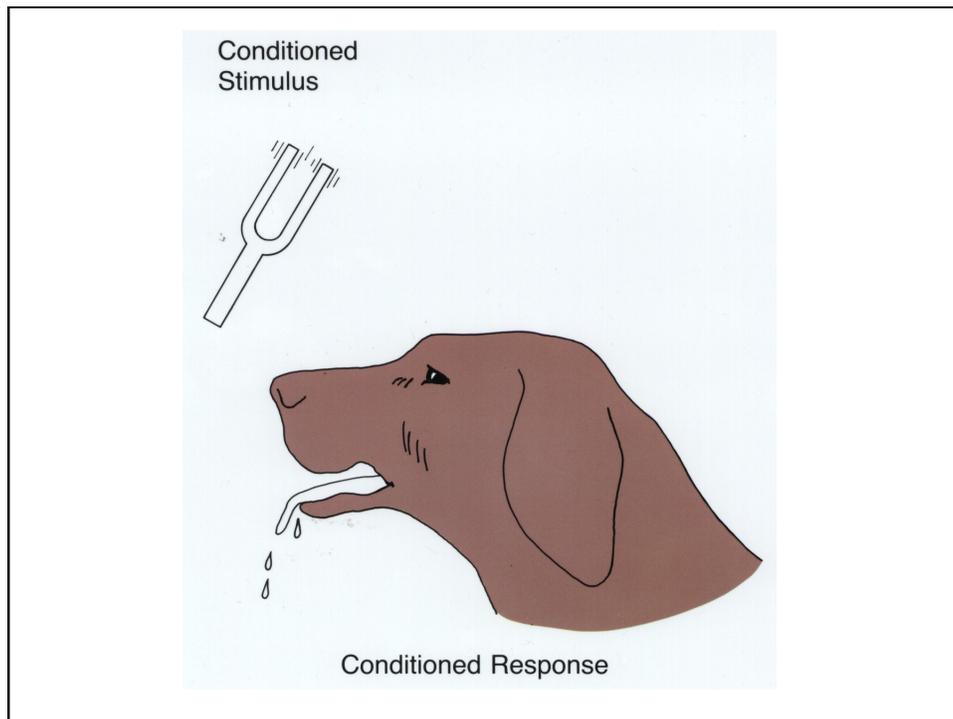
- **Involuntary--reflexes, physiological states (e.g. heart rate, often associated with emotions)**
  - **Classical conditioning**
  - **Stimuli from environment paired with reflex or physiological state to form conditioned physical or emotional responses.**
- **Voluntary-purposeful activity behavior 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



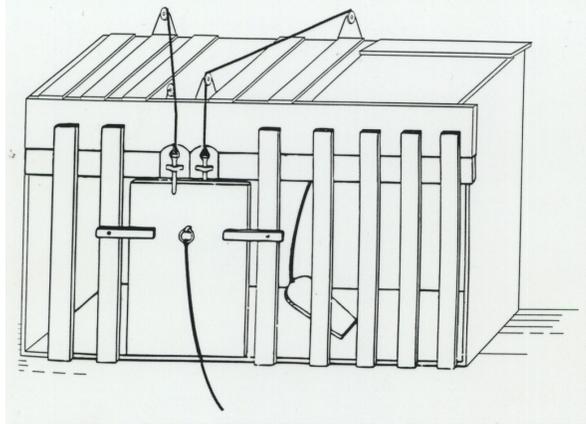




## Examples of Classical Conditioning

- 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***

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**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**

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### ***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*

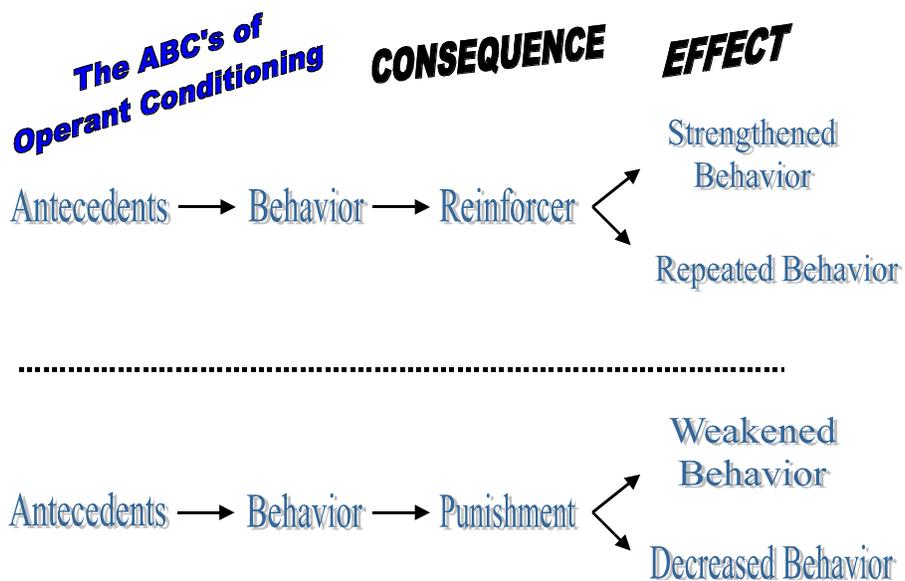
- **Reinforcer**
  - Any consequence that strengthens (increases the frequency of) a behavior
- **Punishment**
  - Any consequence that weakens (decreases the frequency of) a behavior

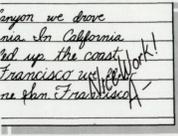
# REINFORCEMENT

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

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*“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**

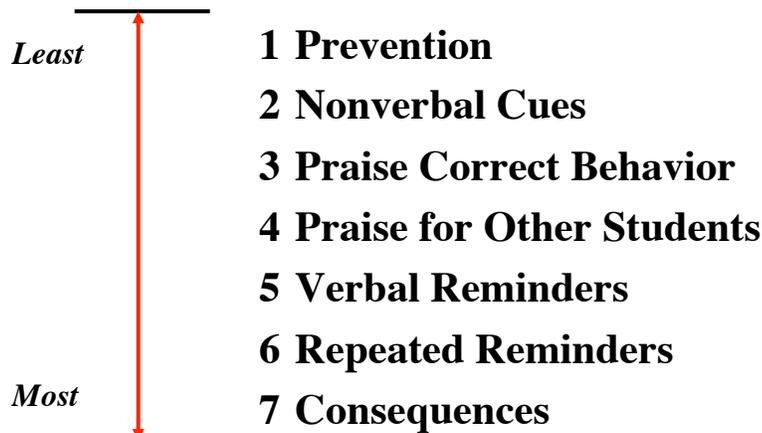
## **Guidelines for Preparing Rules**

- **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*



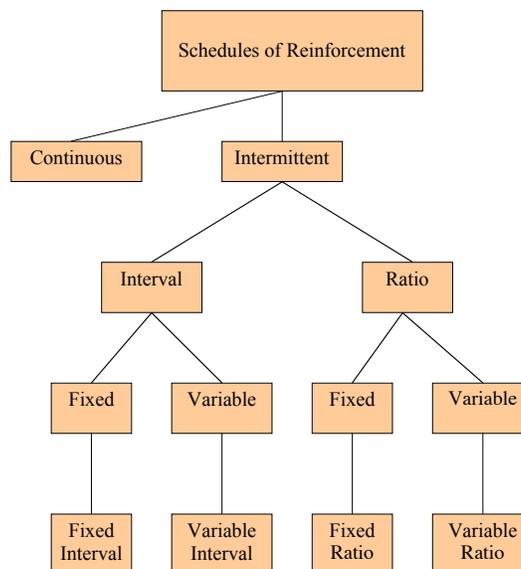
## **Recommendations for Reinforcement**

- ☛ 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



## *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

## *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**

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- **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

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- 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**