

Chapter 4 - continued

Characteristics of CS & Additional Phenomena



Unbeknownst to most students of psychology, Pavlov's first experiment was to ring a bell and cause his dog to attack Freud's cat.

Effects on Conditioning of a CS

- We've discussed the effect of the CS-US pairing as being important.
- What properties of a CS itself determine the effectiveness of conditioning?

Properties of the CS

- Latent Inhibition
- Overshadowing
- Blocking

The last 2 conditioning Methods involve use of:

- Compound Stimulus -

– Example: [light + tone] : shock → fear
 NS US UR

Latent Inhibition

- Also called CS-preexposure effect.
- A familiar stimulus is
 - Training Phase 1: (preexposure)
 - Light (comes on periodically without any pairing)
 - Training Phase 2:
 - Light (NS) : Food (US) → Salivation (UR)
 - Test Phase
 - Light (NS) →
- Experience with a stimulus makes it harder to enter into a new and different association.

Real World Example

- Training Phase 1: (preexposure)
 - Fire alarm (falsely occurring a couple times a week)
- Training Phase 2:
 - Fire alarm (NS) : Emergency/Fire (US) → Fear (UR)
- Test Phase
 - Fire Alarm (NS) →

- We learn that redundant stimuli in the environment are not important and should be ignored.

Overshadowing

- In a compound stimulus,

- Typically, the more salient NS

Overshadowing Example

- Training Phase:
 - [dim light + bright light](NS) : shock (US) → fear (UR)
 - [dim light + bright light](CS) → fear (CR)
- Testing Phase
 - bright light (CS) →
 - dim light (NS) →
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Overshadowing Real World Example

- Training Phase:
 - [Doctor + Nurse](NS) : bad health (US) → fear (UR)
 - [Doctor + Nurse](CS) → fear (CR)
- Testing Phase
 - Doctor (CS) →
 - Nurse (NS) →

Overshadowing Real World Example

- For cancer patients, sometimes they develop a taste aversion to food in general (stop eating). To prevent this...
- Training Phase:
 - [hospital food + novel flavor](NS) : chemotherapy (US) → sick (UR)
 - [hospital food + novel flavor](CS) → sick (CR)
- Testing Phase
 - novel flavor (CS) → sick (CR)
 - hospital food (NS) → no response

What determines salience?

- Characteristics of the stimulus.
 - Example: weak vs. strong
- Organism's characteristics
 - Example:
 - for pigeons,
 - for rats,
 - (because of methods of foraging for food?)
- Relationship between CS & UR is important
 - Flavor → nausea
 - Light → nausea

Conclusions about Overshadowing

- Overshadowing -- sometimes contiguity between a NS and US is not enough to form a conditioned association.
- Overshadowing is the weakening of another stimulus association.
 - Typically, the more salient NS interferes with the conditioning of the less salient NS
 - If both NS are equally salient, then they tend to overshadow each other. Both have the same response, but it's weaker than if they were conditioned alone.
 - Training Phase:
 - [green light + red light](NS) : shock (US) → fear (UR)
 - [green light + red light](CS) → fear (CR)
 - Testing Phase
 - green light (CS) → weak fear (CR)
 - red light (NS) → weak fear (CR)

Blocking

- An already established conditioned stimulus
- The compound stimulus consists of a CS and a NS paired with a US.
 - (in overshadowing is was two NS paired with a US)

Blocking Example

- Training Phase 1:
 - light (NS) : shock(US) → fear (UR)
 - light (CS) → fear (CR)
- Training Phase 2:
 - light (CS)+tone(NS): shock (US) → fear (UR)
- Testing Phase:
 - light (CS) →
 - tone (NS) →
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Blocking - Real World Examples

- **Training Phase 1: You always eat and get sick at Grandma's house.**
 - Taste of pudding (NS) : bad ingredient(US) → sick (UR)
 - Taste of pudding (CS) → sick (CR)
- **Training Phase 2: A more festive holiday at Grandma's house.**
 - Taste of pudding (CS)+ cookies(NS): bad ingredient (US) → sick (UR)
- **Testing Phase: (later eating them on separate occasions)**
 - Taste of pudding (CS) → sick (CR)
 - cookies (NS) → no response

Learned Inattention Hypothesis

- Why doesn't conditioning occur on the NS?
- Learned Inattention.

- If we purposefully try to condition the NS in a new phase,

Training Phase 1:

light (NS) : shock(US) → fear (UR)
light (CS) → fear (CR)

Training Phase 2:

light (CS)+tone(NS): shock (US) → fear (UR)

Testing Phase:

light (CS) → fear (CR)
tone (NS) → no response

Training Phase 3:

tone (NS) : shock(US) → fear (UR)
buzzing (NS) : shock(US) → fear (UR)

Testing Phase 2:

tone (CS) → weak fear response (CR)
buzzing (CS) → strong fear response (CR)