

Pavlovian Applications

- Fear and Little Albert
- Fear Reduction
- Prejudice
- Paraphilias
- Taste Aversions
- Advertising
- Drug Addiction
- Health Care

Classical Conditioning, Emotions, Motivation and Behavior

Many of the social issues that many of you wrote down involved voluntary behaviors. Classical conditioning involves involuntary behaviors that can occur without our knowledge and tend to be automatic. These involuntary behaviors can include our emotions.




Appeal to Fear

Naturally, the common people don't want war, neither in Russia nor in England nor in America, nor for that matter in Germany. That is understood. But the people can always be brought to the bidding of the leaders. That is easy. All you have to do is tell them they are being attacked, and denounce the pacifists for lack of patriotism and exposing the country to danger.

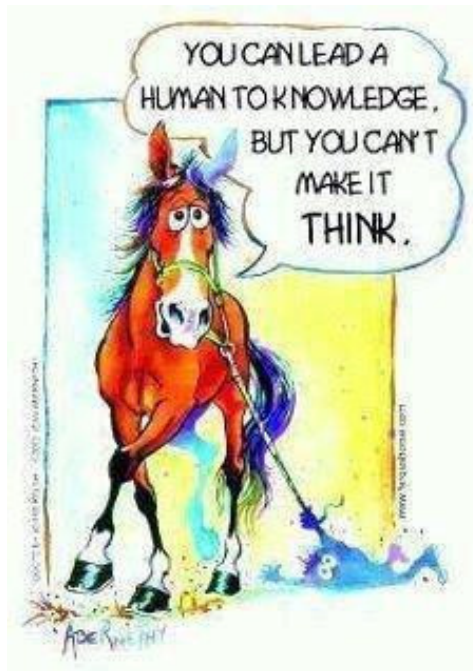
**It works the same way
in every country.**

—Hermann Goering
during the Nuremberg Trials



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Feelings May Override Thinking



I had a listener say he didn't trust the **President** and that he thought he'd "made the Sandy Hook shooting happen" to get re-elected.

I explained that Sandy Hook happened **AFTER** the election.

His response?

"That's your opinion."

The stupid is strong, folks.

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SHANNYN MOORE

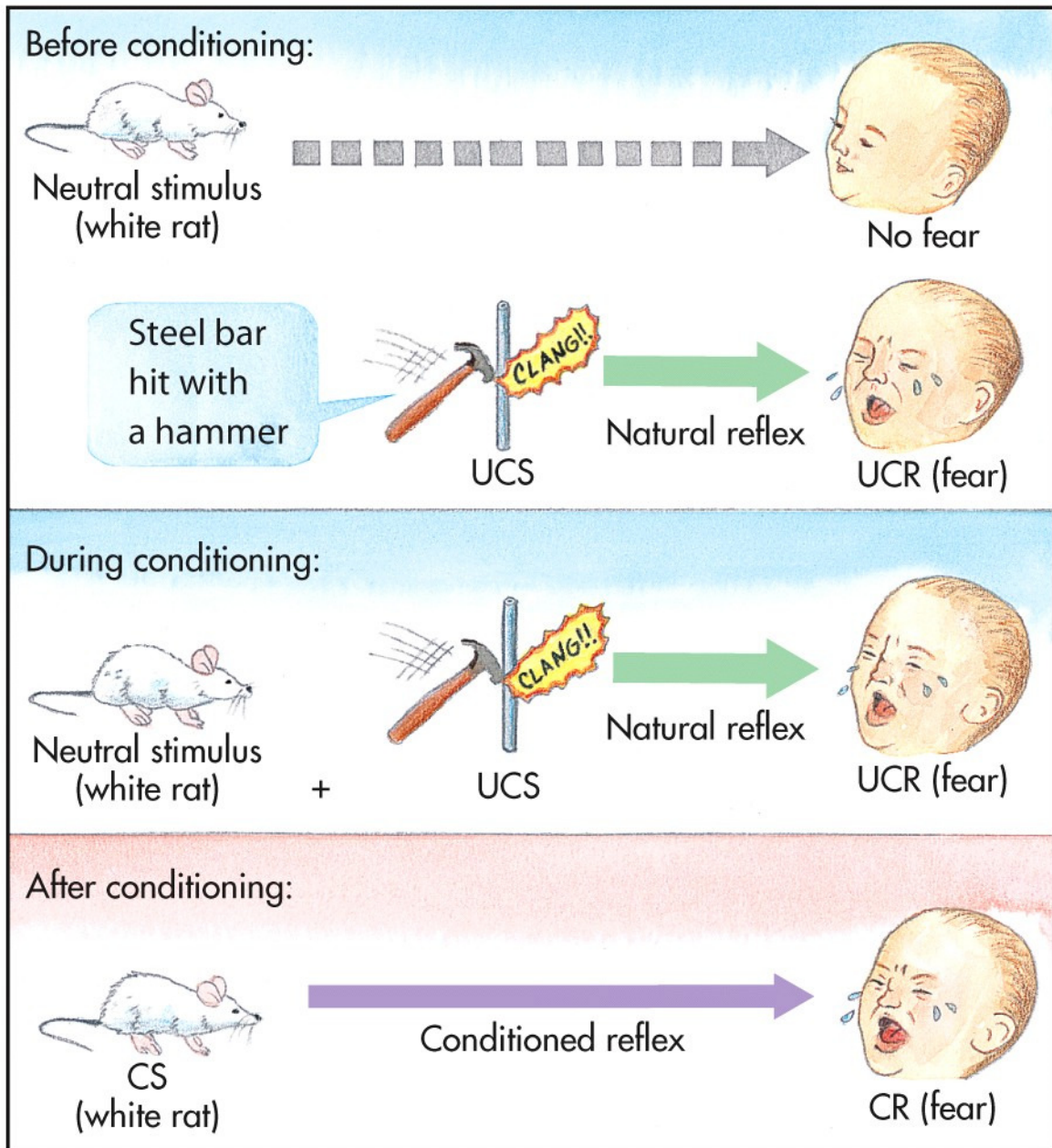
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Emotional Response and Voluntary Behavior

Classical conditioning generally involves involuntary behavior. Operant conditioning involves voluntary behavior. Often, we observe the voluntary behavior.

Involuntary Response	Voluntary behavior
<ul style="list-style-type: none">• Fear of snakes• Prejudicial attitudes• Inappropriate sexual arousal that harms others (paraphilias)• Disgust at eating spaghetti that has gone bad (taste aversions)• Isn't that so cute!• Withdrawal symptoms in response to drug taking cues• Reduced immune response	<ul style="list-style-type: none">• Avoid zoos• Discriminate against others• exhibitionism• Choose not to eat at Authentic Tony's Italian Meal Deal• Buying GEICO insurance• Using drugs• Avoid hospitals

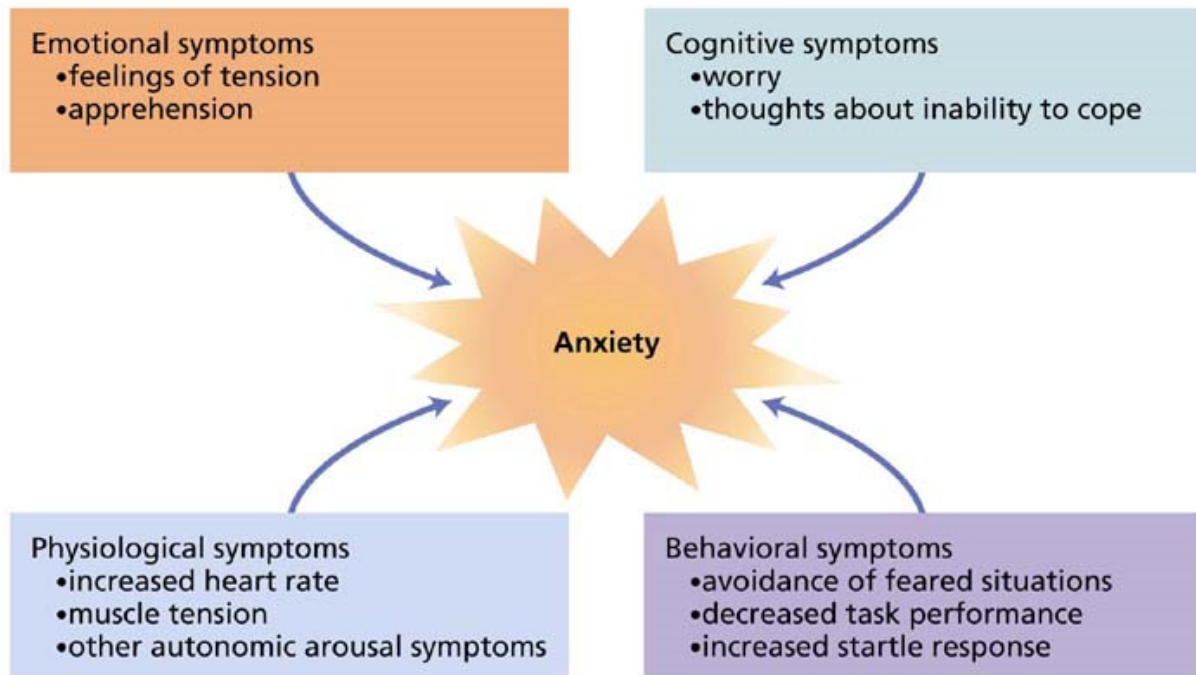
Pavlovian Applications: Fear



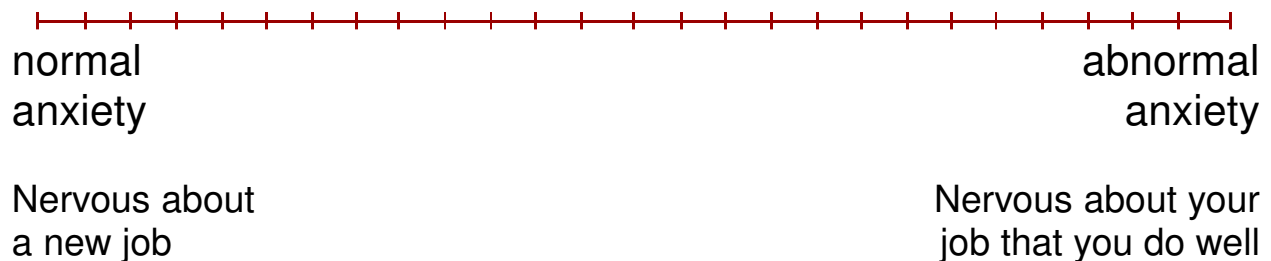
Anxiety Disorders

Anxiety: An unpleasant emotional state characterized by physical arousal and feelings of tension, apprehension or worry.

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Anxiety is normal. Abnormal anxiety is when it becomes so frequent interferes with a person's social and professional functioning.

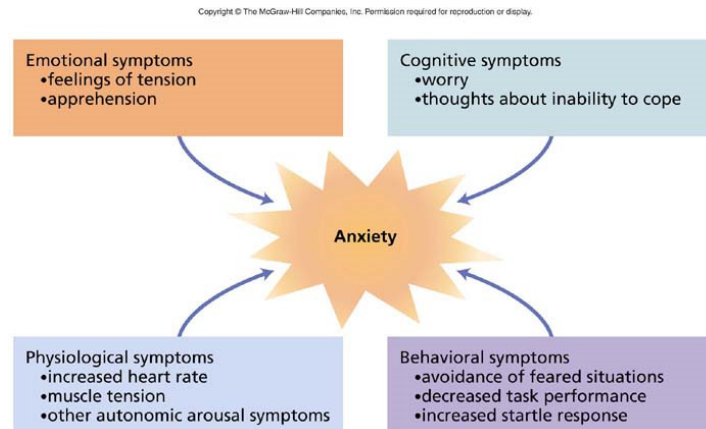


Pathological and Normal Anxiety

Pathological	Normal
<p><u>Irrational</u></p> <ul style="list-style-type: none"> • Anxiety provoked by threats that are exaggerated or non-existent. • The response is out of proportion to the actual importance of the situation. • It is intense. <p>My sister screams and jumps at the sight of a spider or its picture.</p>	<p><u>Rational</u></p> <ul style="list-style-type: none"> • Anxiety provoked by real and reasonable threats. • The response is proportional to the actual to the actual importance of the situation. <p>My mother pays no attention at the sight of a spider.</p>
<p><u>Uncontrollable</u></p> <ul style="list-style-type: none"> • The person cannot shut off the alarm reaction even when they know the reaction to the anxiety is unrealistic. • Their reactions are more frequent. <p>My sister cannot contain her anxiety, even though she realizes it is “just a spider”.</p>	<p><u>Controllable</u></p> <ul style="list-style-type: none"> • The person can control their reactions to anxiety. <p>I can calmly respond to a spider, even though I don’t like spiders either.</p>
<p><u>Disruptive</u></p> <ul style="list-style-type: none"> • The anxiety interferes with relationships, job, or academic performance. <p>My sister cannot continue working with a spider in the room.</p>	<p><u>Undisruptive</u></p> <ul style="list-style-type: none"> • The anxiety does not interfere with your relationships, job, or academic performance. <p>I can continue working in the room with a spider.</p>

Anxiety Disorders

Anxiety disorders: A category of psychological disorders in which extreme anxiety is the main diagnostic feature and causes significant disruptions in the person's cognitive, behavioral, or interpersonal functioning.



People often experience more than one type of anxiety disorder at a given time and can often occur with mood disorders (especially depression).

Types of anxiety disorders include:

- General anxiety disorder (GAD): Apprehension and tension
- Phobias: Anxiety becomes a focused fear
- Panic Disorder: Anxiety escalates to overwhelming panic
- Obsessive Compulsive Disorder (OCD): Anxiety controlled by repetitive thoughts and behaviors

Anxiety disorders are the most common category of psychological disorders and account for about 4 million visits to doctors' offices each year in the United States.

Phobias

Phobias—An anxiety disorder that is characterized by marked, persistent and excessive fear and avoidance of specific objects, activities or situations. The fear response is out of proportion to the stimulus and the fear and avoidance must significantly interfere with daily life.

About 11% of people in the United States will develop a specific phobia in their lifetime. Generally, phobics realize their fears are irrational, but feel compelled to avoid the feared situation or objects.

Specific phobias fall into five categories:

(1) animals (dogs, cats, rats, snakes, spiders)	
(2) natural environments (heights, darkness, water, storms)	
(3) situations (bridges, elevators, tunnels, enclosed spaces)	
(4) blood injections and injury	
(5) other phobias including illness and death.	

Phobias

TABLE 28.2 SOME COMMON—AND NOT-SO-COMMON—
PHOBIAS

These are common:

Blood	hematophobia
Darkness	nyctophobia
Enclosed space	claustrophobia
Germs	spermophobia
Heights	acrophobia
Mice	musophobia
Snakes	ophidiophobia
Spiders	arachanophobia
Wasps	spheksophobia

Phobias can develop to almost anything, including:

Air	aerophobia
Churches	ecclesiaphobia
Eyes	ommatophobia
Frost	cryophobia
Shadows	sciophobia
Swallowing	phagophobia
Trees	dendrophobia

Source: Adapted from Melville, 1978.

Pavlovian Applications: Fear Reduction

Behavior Therapy is a type of therapy that assumes that disordered behavior is learned and that symptom relief is achieved through changing overt maladaptive behaviors into more constructive behaviors.

- Techniques based on classical conditioning
 - Counterconditioning
 - systematic desensitization
 - Virtual reality exposure therapy (VRET)

Counterconditioning gradually exposes the person to the fearful stimuli in a safe manner and gradually increases the intensity (Think Peter Rabbit), or for those people who were at the Boston Marathon when the bomb exploded, going back and having fun there can counter the fear associated with it.

Systematic desensitization is a procedure in which a phobic person images a very weak form of the frightening CS while relaxes ([page 98](#)).

Pavlovian Applications: Fear Reduction

A type of behavior therapy in which phobic response are reduced by pairing relaxation with a series of mental images or real-life situations that the person finds progressively more fear-provoking.

Generally, there are three basic steps in systematic desensitization.

- The patient learns progressive relaxation. This involves successively relaxing one muscle group after another until a deep state of relaxation is achieved.
- The behavior therapist helps the patient construct an anxiety hierarchy which a list of anxiety-provoking images are associated with the feared situation

TABLE 13.2 A Sample Anxiety Hierarchy

The following is typical of anxiety hierarchies that a therapist and a patient might develop to desensitize a fear of public speaking. The therapist guides the deeply relaxed patient in imagining the following situations:

1. Seeing a picture of another person giving a speech
2. Watching another person give a speech
3. Preparing a speech that I will give
4. Having to introduce myself to a large group
5. Waiting to be called on to speak in a meeting
6. Being introduced as a speaker to a group
7. Walking to the podium to make a speech
8. Making a speech to a large group

The patient also develops an image of a relaxing control scene such as nice summer day.

Pavlovian Applications: Fear Reduction

- The last step involves the process of desensitization. While deeply relaxed, the patient imagines the least threatening scene in the hierarchy.

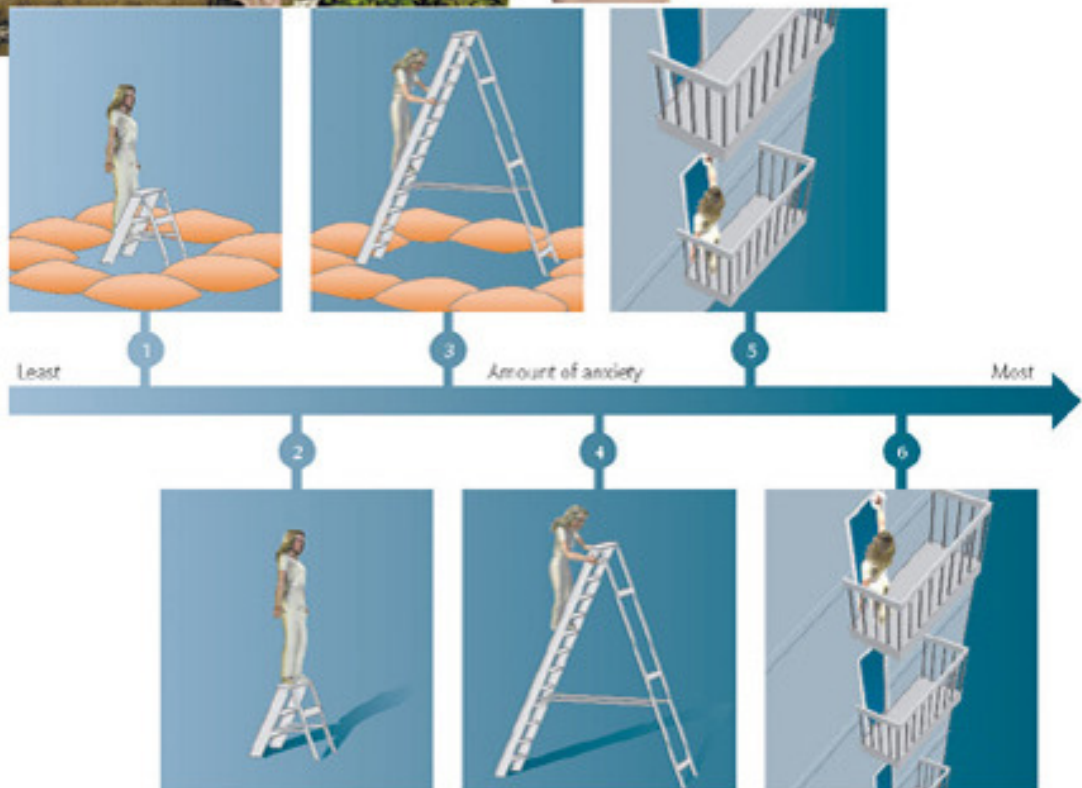
After the person can maintain relaxation while imagining the scene, they move to the next scene. If the person begins to feel anxious or tense, the therapist helps the patient imagine the previous scene or go to the control scene. If necessary, the therapist helps the patient relax again using the progressive relaxation technique.

- Current incarnations of systematic desensitization omit the relaxation component and rely more on live exposure than imaginary exposure (unless it is still too threatening to directly experience).

• Pavlovian Applications: Fear Reduction



Madeleine, a college student, has been offered a lucrative summer job painting commercial buildings. She is deathly afraid of heights, but she needs the money. She goes to see a therapist, who tells her that she can be treated in a relatively brief period of time, through systematic desensitization. To understand how this works, look at the six behavioral steps depicted on the continuum below. Can you see how this technique might help Madeleine gradually overcome her fear of heights?



Pavlovian Applications: Fear Reduction



A desensitization hierarchy involving test anxiety for those who are prepared to take the exam:

In the hierarchy, the individual begins with the least feared circumstance (a month before the exam) and moves through each circumstance until reaching the most feared circumstance (the exam paper face down in front of them). At each step, the person replaces fear with deep relaxation and successful visualizations.

1. A month before an examination
2. Two weeks before an examination
3. A week before an examination
4. Five days before an examination
5. Four days before an examination
6. Three days before an examination
7. Two days before an examination
8. One day before an examination
9. The night before an examination
10. On the way to the university on the day of an examination
11. Before the unopened doors of the examination room
12. Awaiting distribution of examination papers
13. The examination paper lies facedown before her
14. In the process of answering the exam questions

Pavlovian Applications: Prejudice

Prejudicial is a negative attitude toward a group of individuals. There are many factors associated with prejudice. There are behavioral, social, and cognitive aspects that can increase prejudicial attitudes.

Behavioral

- Classical conditioning
- Observational Learning

Social

- Poverty
- War
- Conflict over scarce resources
- Cultural and society structures that reinforce negative stereotypes and prejudicial attitudes.

Cognitive

- Prior beliefs and expectations
- Outgroup homogeneity effect
- Ingroup bias
- Threats to self-esteem or self-concept
- Negative stereotypes
- Confirmation bias
- Belief-bias

Emotional

- challenges to your world view
- challenges to your self-esteem

Pavlovian Applications: Prejudice

Prejudicial attitudes can be learned through the process of classical conditioning. In an experiment, students saw ethnic words (neutral stimuli) such as

- German,
- Italian, and
- French

At the same time, the students repeated words spoken by the experimenter.

Some were unemotional such as

- Chair
- With
- Twelve

In addition, some negatively emotional words such as bitter, ugly and failure were paired with words Swedish and some positively emotional words such as happy, and sacred with Dutch.

These ethnic words were reverses for some people so that the positive words were associated with Swedish and the negative words were associated with Dutch.

Pavlovian Applications: Prejudice

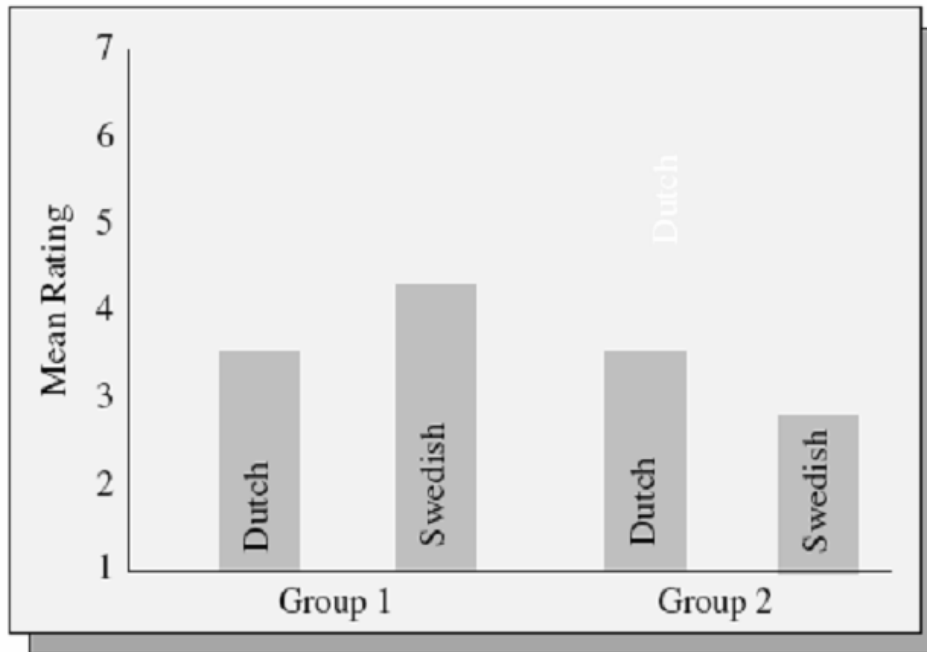


Figure 4-2 Conditioned prejudice. For subjects in Group 1, Dutch was paired with pleasant words, while Swedish was paired with unpleasant words. In Group 2, the procedure was reversed. After training, subjects rated the words Dutch and Swedish from pleasant (1) to unpleasant (7). The ratings reflect the words with which Dutch and Swedish had been paired. (Compiled from data in Staats and Staats, 1958.)

Ratings of a 7 is unpleasant and ratings of 1 is pleasant. These experiments demonstrate that it is possible to classically condition people to have negative attitudes toward groups of people.

In your textbook ([page 103](#)), when the news reports that “On September 11, 2001, Muslim extremists hijacked two planes and flew them into the World Trade Center, killing thousands of people,” pair emotionally charged words (hijacked and killed) with the words designated with a particular group (Muslim).

Pavlovian Applications: Prejudice

There is a tendency for people to hear/say:

- Arab terrorist
- Muslim extremist

Rarely do you hear/see

- American terrorist
- Christian extremist

Historically, you tend to see

- Black suspect

But not

- Caucasian suspect

Those who are Xenophobic may have a tendency to repeatedly emphasize that “those people” are all alike (outgroup homogeneity effect) and use emotional language for those who are different.

Pavlovian Applications: Prejudice

In the 1980's, Caucasian police officers who patrolled minority communities developed negative attitudes toward minorities. Both cognitive and classical conditioning can help explain the development of prejudicial attitudes without assuming anything about the character of the individual.

	Minorities	Non-minorities
Criminal behavior		
Non-criminal behavior		

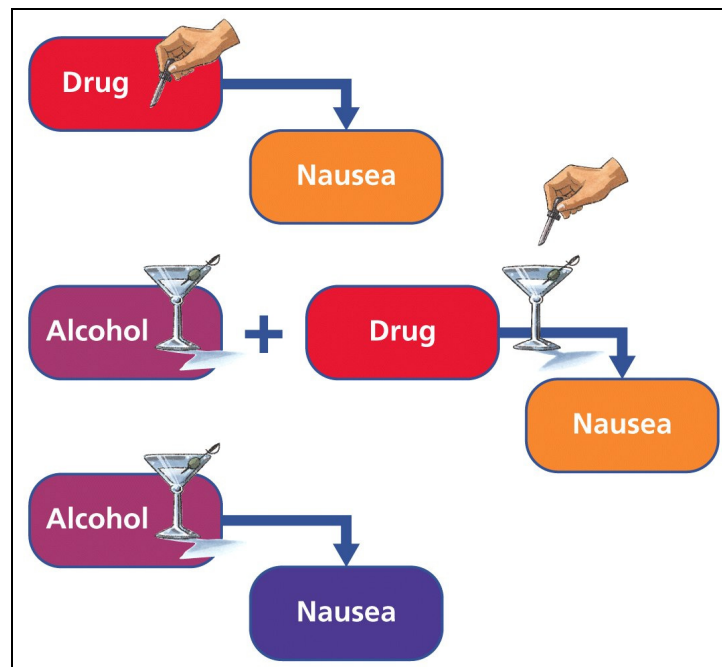
Pavlovian Applications: Prejudice

It is commonly believed that information is a cure for prejudice ([page 103](#)). However, prejudice can be emotional. Countering emotions with knowledge tends to be ineffective—especially if there are years of living and reinforcing prejudicial attitudes. If people have been living with prejudicial attitudes for years, it will take many years to unwind those prejudicial attitudes (and any hatemonger can easily stymie years of prejudicial reduction work).

Paraphilias and Aversive Conditioning

Thanks to Freud, many people believe that the tendency to become sexually aroused in unconventional ways is due to mysterious forces. There is no evidence to for Freud's death wish to explain masochistic behavior, conditioning does play a role ([page 105](#)).

Aversion Therapy: You associate a behavior with an aversive outcome.



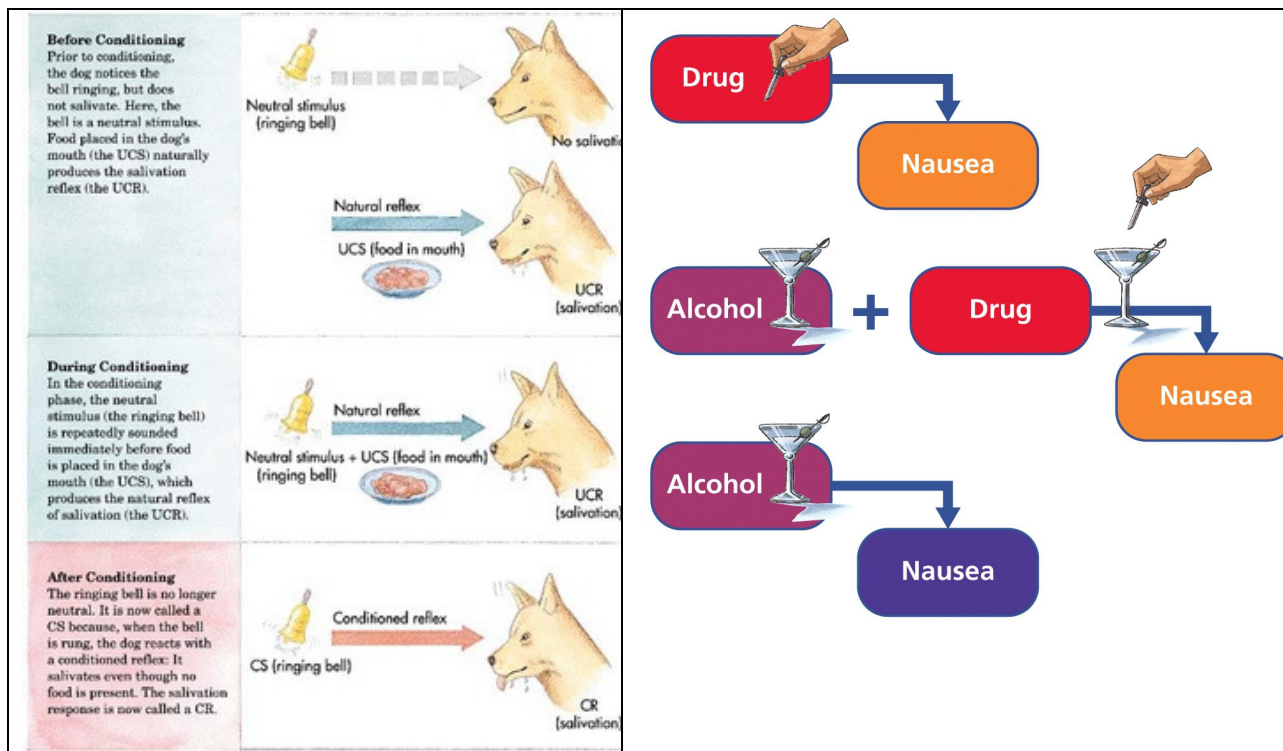
Aversion therapy has been helpful to reduce the incidents of many exhibitionists.

However, if the unwanted sexual behavior is NOT learned, aversion therapy will not work. Homosexuality appears to be biological in nature. Learning techniques will not change the sexual orientation of people.

Aversive Therapy

Taste aversions can be used to create an unpleasant conditioned response to a behavior you wish to stop such as cigarette addiction or alcohol abuse.

The effectiveness of aversive conditioning in treating substance abuse is more effective when the person is very motivated to stop and when it is combined with other forms of therapy. However, aversive conditioning is not very effective and it is not widely used.



Pavlovian Applications: Taste Aversions



(a)



(b)

FIGURE 6.9 **Conditioned Food Aversion in Animals** (a) After eating a monarch butterfly, (b) this blue jay vomited and thus learned to avoid eating anything that looks like the butterfly.

Classical Conditioning: One Trial Learning & Taste aversions



Lithium and coyotes

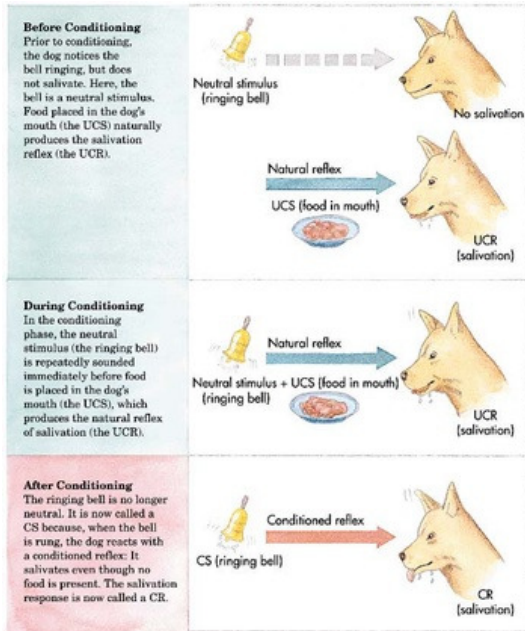
Identify the

1. unconditioned stimulus (UCS),
2. unconditioned response (UCR),
3. neutral stimulus,
4. conditioned stimulus (CS),
5. conditioned response (CR).

How does the research on taste aversions violate two basic principles of classical conditioning?

- Learning of an association does not require repeated pairings of the stimulus and response.
- The time delay is in hours and not seconds.

Pavlovian Applications: Advertising



Tannen Maury/The ImageWorks



Bill Aaron/PhotoEdit

Classical conditioning in action. Have you every wondered why politicians kiss babies? Or why beautiful women are so often used to promote products?

Using the process of classical conditioning, explain why politicians kiss babies or why beautiful women are often used to promote products.

What is the

- US
- UR
- Neutral stimulus
- CS
- CR