

**MAYER CHAPTER 15  
STIMULUS CONTROL + MOTIVATING  
OPERATIONS**

STIMULUS CONTROL

A small, fluffy dog with brown and white fur is sitting on a brown rug. The dog has a white blaze on its face and is looking directly at the camera. A black leash is attached to its collar and lies on the rug. The background is a white wall with a window blind.

**STIMULUS CONTROL IS ADAPTIVE**



## STIMULUS CONTROL DEFINED

- The relationship between a stimulus and a response when the stimulus sets the occasion on which the response will likely have a consequence.

DISCRIMINATIVE STIMULI

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Discriminative stimulus for reinforcement

• S<sup>DR</sup>



S Delta – Discriminative stimulus for lack of reinforcement

• S<sup>Δ</sup>

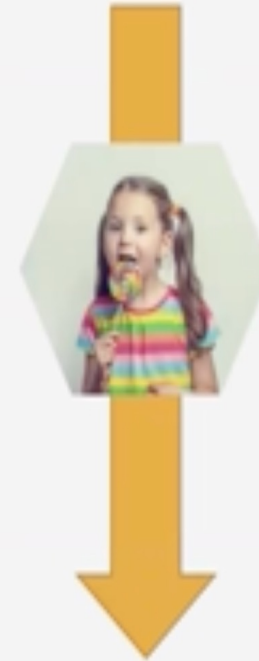


S DeltaP - Discriminative stimulus for punishment

• S<sup>DP</sup>

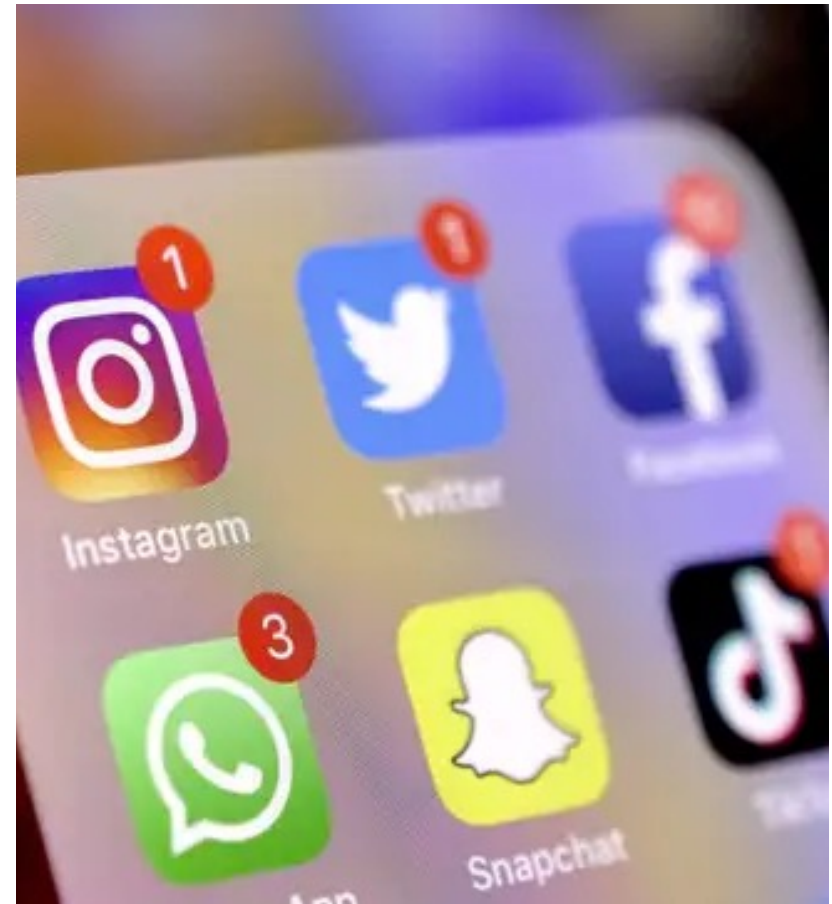


Likelihood of behavior being evoked



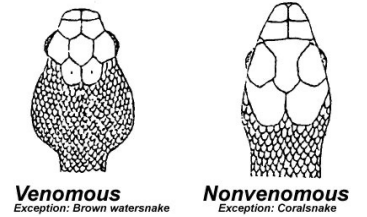
## EXAMPLES OF STIMULUS CONTROL

When we respond consistently in the presence of a particular stimulus, that stimulus is said to have control over that behavior.



# TEACHING DISCRIMINATION

We use differential reinforcement to teach responding under a particular stimulus over another.





# DIFFERENTIAL REINFORCEMENT

- 1) Introducing a “correct” response in the presence of the appropriate stimulus
- 2) Not reinforcing (or punishing) the same response in the presence of a different or inappropriate response.



Make sure all  
relevant stimuli are  
present

# MOTIVATING OPERATIONS (MOS)

# MOTIVATING OPERATIONS (MOS) DEFINED

Antecedent stimuli that:

Alter the value or strength of the SDs and  
consequences

Alter the likelihood of the behavior occurring



UNCONDITIONED AND  
CONDITIONED MOTIVATING  
OPERATIONS

# UMO AND CMO



Unconditioned Motivating Operations (UMOs): the effects of the reinforcer are not learned (e.g., deprivation of food, extreme heat/cold, etc.)



Conditioned Motivating Operations (CMOs): the effects of the reinforcer are learned (e.g., being given a difficult worksheet, being told “no,” etc.)

# CONDITIONED MOTIVATING OPERATIONS (CMOS)



**Transitive Conditioned Motivating Operations (CMO-T):** Those that are affected by the reinforcing effectiveness of another reinforcer.

When food is reinforcing, so is having a way to eat it. When you are hungry and you order soup but have no spoon, the spoon is a CMO-T for asking for a spoon because you are hungry.



**Reflexive Conditioned Motivating Operations (CMO-R):** Represents a worsening or improving situation and is relative to the stimuli present.

When finishing a task is reinforcing, so is getting closer to the end. When you are running in a race and you get to the second to last lap, you speed up because you are additionally motivated to reach the end now that you are close.



**Surrogate Conditioned Motivating Operations (CMO-S):** Represent some other MO and have the same effect as the MO it represents.

When you see an image of damaged teeth and gums you brush your teeth more thoroughly. You don't need to see your own teeth and gums in this state to find motivation to brush thoroughly. The image has a sufficient effect.

## ACTIVE STUDENT RESPONDING (ASR)

- You receive this month's credit card bill and the bill states that if you do not pay on time, interest will be charged. You quickly pay the bill so as to avoid having to pay interest.
  - CMO-R
  - CMO-T
  - CMO-S

# ASR

- Imagine a picture of your favorite cake vs. seeing an actual cake. Both cause your mouth to water.
  - CMO-R
  - CMO-T
  - CMO-S



# ASR

- Someone places a lock on the fridge and you are now hungry. You are looking everywhere for the key.
  - CMO-R
  - CMO-T
  - CMO-S

# USING THE MO

Be familiar with the client's daily routine and how long it has been since they have had access to certain reinforcers

(Ethically) withhold certain reinforcers in order to make them more effective

Use the Premack Principle

Use a wide variety of reinforcers

Include novel items

Use reinforcer sampling