

An Example of Stimulus Control

R (You answer the phone) → Sr+ (You have a conversation)

Under what condition does answering the phone usually occur?

(Note: We assume an EO is present [talking is a reinforcer])

<u>Antecedent Event</u>	<u>R (Answer phone)</u>	<u>Consequence</u>
Phone not ringing	Answer	No Sr+
Phone ringing	Answer	Sr+ (INT)
Door bell ringing	Answer	No Sr+
Alarm clock ringing	Answer	No Sr+

Answering the phone occurs only in the presence of ringing and only in the presence of the phone ringing because “phone ringing” has been paired with reinforcement for answering

Another Example of Stimulus Control

R (Baby says “Mama”) → Sr+ (Baby gets picked up)

Under what condition does the baby say “Mama?”

<u>Antecedent Event</u>	<u>R (Mama)</u>	<u>Consequence</u>
No one present	Mama	No Sr+
Mother present	Mama	Sr+ (smile, pick up)
Dog present	Mama	No Sr+
Father present	Mama	Sr+ (smile, pick up)
Neighbor present	Mama	No Sr+

Saying “Mama” occurs when the mother is near because mother’s presence has been paired with reinforcement for saying “Mama”

What about father and neighbor?

Terminology

Stimulus Control

Process by which (a) an antecedent event (b) exerts control over behavior through (c) differential pairing with consequences for responding

Discriminative Stimulus (S^D)

A stimulus in whose presence there is an increased likelihood of reinforcement for responding; or, a stimulus that occasions responding due to its previous pairing with reinforcement

S^Δ

A stimulus in whose presence there is a decreased likelihood of reinforcement for responding; or, a stimulus that does not occasion responding due to its lack of pairing with reinforcement

Continuum of Stimulus Control

Stimulus discrimination (tight stimulus control)

The absence of responding in the presence of stimuli different than those paired with reinforcement (i.e., the subject “discriminates” the difference between stimuli)

Stimulus generalization (loose stimulus control)

The occurrence of responding in the presence of stimuli that are similar to (share certain characteristics with) those paired with reinforcement (i.e., the subject does not discriminate; instead, the subject’s responding “generalizes” across stimuli)

Phone Answering Example

<u>Antecedent Event</u>	<u>R (Answer phone)</u>	<u>Consequence</u>
Phone ringing	Answer	Sr+ (INT)
Phone not ringing	Answer	No Sr+
Door bell ringing	Answer	No Sr+
Alarm clock ringing	Answer	No Sr+

Phone ringing is correlated with reinforcement for answering

Phone answering occurs in the presence of phone ringing

Phone ringing is an SD for answering

Phone ringing exerts stimulus control over answering

Door bell, alarm clock are not correlated with reinforcement

Phone answering does not occur in the presence of these stimuli

Door bell, alarm clock are SΔ for answering

Door bell, alarm clock do not exert stimulus control over answering

Answering shows a high degree of stimulus discrimination (tight stimulus control); little evidence of stimulus generalization

“Mama” Example

<u>Antecedent Event</u>	<u>R (Answer phone)</u>	<u>Consequence</u>
No one present	Mama	No Sr+
Mother present	Mama	Sr+ (smile, pick up)
Dog present	Mama	No Sr+
Father present	Mama	Sr+ (smile, pick up)
Neighbor present	Mama	No Sr+

What stimuli are correlated with reinforcement for “Mama?”

What stimuli are Sd for “Mama?”

What stimuli are SΔ for “Mama?”

In what way does “Mama” show evidence of

Stimulus discrimination?

Stimulus generalization ?

S^D vs. EO

Similarity

Both are antecedent events

Both occasion increase in R

Difference:

EO Occasions R because Sr more potent in the presence of EO

S^D Occasions R because Sr more probable in the presence of S^D (due to previous pairing with Sr)

Example: Asking someone for a glass of water

EO: Water deprivation

S^D: Presence of another person

	<u>EO present</u>	<u>EO absent</u>
Is water valuable?	?	?
Will you seek water?	?	?
Will you ask for water?		
Person (SD) present	?	?
Person (SD) absent	?	?

O'Neill, Blanck, & Joyner (1980)

General Focus: To apply behavioral principles in the context of environmental preservation

Specific Aim: To demonstrate stimulus control over littering

Procedures

Participants: Those in GA area of football stadium

Apparatus:

Experimental can (Hat → "Push" → "Thanks")
Control can (no special marking)

DV:

and wgt of specific items in cans (type of measure?)
20 min post game, litter bagged, weighed, counted
Reliability?

IV:

Exp can position alternated w/ control can (both present)

Experimental design?

Results, Implications, Extensions

Results:

More pieces of litter in Exp can (14/16 comparisons)
Greater weight in Exp can (3/4 comparisons)

Conclusion: Exp can "focused attention for proper litter disposal?"

Major contribution: Simple method for decreasing litter

Limitations:

Small wgt difference across 4 games (11.5 lb vs. 5.7 lb)
Unclear if procedure decreased litter on ground
Basis for stimulus control not explained
Extensions:
Stimulus control over other environmentally-relevant Rs