

## Extinction

Definition: Discontinuation (cessation) of reinforcement for a behavior, leading to a decrease in its frequency

### Variations based on:

Function: behavior's maintaining contingency

Procedure: implementation technique

### Extinction of Behavior Maintained by Sr+

Do not deliver Sr+ (when it is absent)

Example: Psychotic patient approaches and asks "Where did you put my Neptune telecommunicator?"

EXT: ?

Remove Sr+ (when it is present)

Example: You are speaking with a patient, who mentions that she is receiving a voice transmission from her deceased grandmother

EXT: ?

### Extinction of Behavior Maintained by Sr-

Do not terminate ongoing stimulation

Example: A child feigns sickness during an exam in school

EXT: ?

Do not delay presentation of stimulation

Example: A child feigns sickness at home as the school bus arrives

EXT: ?

Note: What if EXT (Sr+) is applied to behavior maintained by Sr-?

### Extinction of Behavior Maintained by Automatic Sr

Modify source of stimulation so that R does not produce it

Example: Child continually flips light switch on and off

EXT: ?

Modify effect of stimulation through distortion

Example: Individual has drug (cocaine) habit

EXT: ?

Modify some feature of R so it no longer produces Sr

Example: Child engages in "self-stimulatory" scratching

EXT: ?

Note: What if EXT (Sr+) or EXT (Sr-) is applied to behavior maintained by automatic reinforcement?

## Results of Extinction

EXT burst: Initial and temporary increase in some dimension of R (usually frequency or intensity) during EXT

EXT induced phenomena: Initial and temporary increase in other responses during EXT (aggression, “emotional” behavior, or other behaviors that have produced similar reinforcement in the past)

Gradual decrease in R frequency

Spontaneous recovery: Temporary reappearance of R following EXT

## Factors that Reduce Resistance to Extinction

Historical factors:

- Schedule of Sr (CRF facilitates EXT)
- Smaller magnitude of Sr
- Previous exposure to EXT

EXT-related variables:

- Stimulus change during EXT
- Consistency of EXT
- High response effort
- Massed distribution of EXT trials

Other procedures combined with EXT:

- Punishment for target R
- Sr for Alt R

## Extinction: General Considerations

Advantage: Simplest and most direct method of R suppression

Disadvantages:

- Some reinforcers difficult to identify or eliminate
- Possibly slow acting
- Potential side effects
- Does not directly establish Alt R

France & Hudson (1990), "Behavior management of infant sleep disturbance"

General focus: To develop an effective treatment for infant night waking

Specific aim: To evaluate the effects of extinction and stimulus control

Participants: N=7 (2F, 5M), 8-20 mo, referred by RNs

DV:

Night waking (parent recorded frequency and duration)

Reliability: daily phone checks, VAR for Ss 3,4,6 (F-U only)

Agreement: Freq. = same 15-min interval; Dur. = 5% tolerance

"Sleep behavior scale" (child sleep patterns)

Baseline: ??

Treatment:

Stimulus control: "Good night"

Extinction: Parent left room and ignored night awakenings

Experimental design: Multiple baseline across subjects

Results

Frequency of awakenings decreased for all Ss

EXT burst for Ss 1,3,4

Duration of awakenings decreased for all Ss

EXT burst for Ss 1,2,4,6,7

Good maintenance at 3-mo and 1-yr Follow-up

Improvements in sleep behavior scale for all Ss

Decreased parental attention during EXT (but see F-U)

Implications & Extensions

Major contribution:

Relatively simple method for solving significant problem

Limitations:

No functional analysis (attention presumed reinforcer)

Parental data collection and phone reliability checks

EXT bursts: When should program be implemented?

Extensions:

Alternative treatment based on reinforcement?