

UNDERSTANDING AND USING EXTINCTION PROCEDURES



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GOALS OF TRAINING

- Understand the definition of extinction
- Understand how to implement extinction based on behavior function
- Understand the effect of extinction on rate of behavior
- Understand generalization and maintenance as it relates to behavior reduction

WHAT IS EXTINCTION?

- Technical definition: procedure in which reinforcement is no longer provided for a previously reinforced response
- In order to effectively discontinue the reinforcing consequence we must first correctly identify the function of the behavior

REVIEW OF FUNCTIONS OF BEHAVIOR

FUNCTION	DEFINITION
Escape	An individual engages in behavior so they can escape or avoid something they find aversive. For example, an individual may engage in aggression to stop a teacher or therapist from working with them.
Attention	An individual engages in behavior in order to gain some form of social attention or a reaction from other people. An individual may engage in behavior to get other people to look at them, laugh at them, play with them or even scold them. Negative attention is <i>still</i> attention!
Tangible	An individual engages in behavior so they can gain access to a tangible item or desired activity. For example, the individual may scream and shout until their caregiver buys them or provides them a new toy.
Automatic	An individual engages in a behavior simply because they enjoy the behavior. The behavior does not have anything to do with external reinforcement from others. For example, an individual may rock back and forth because it is enjoyable for them.

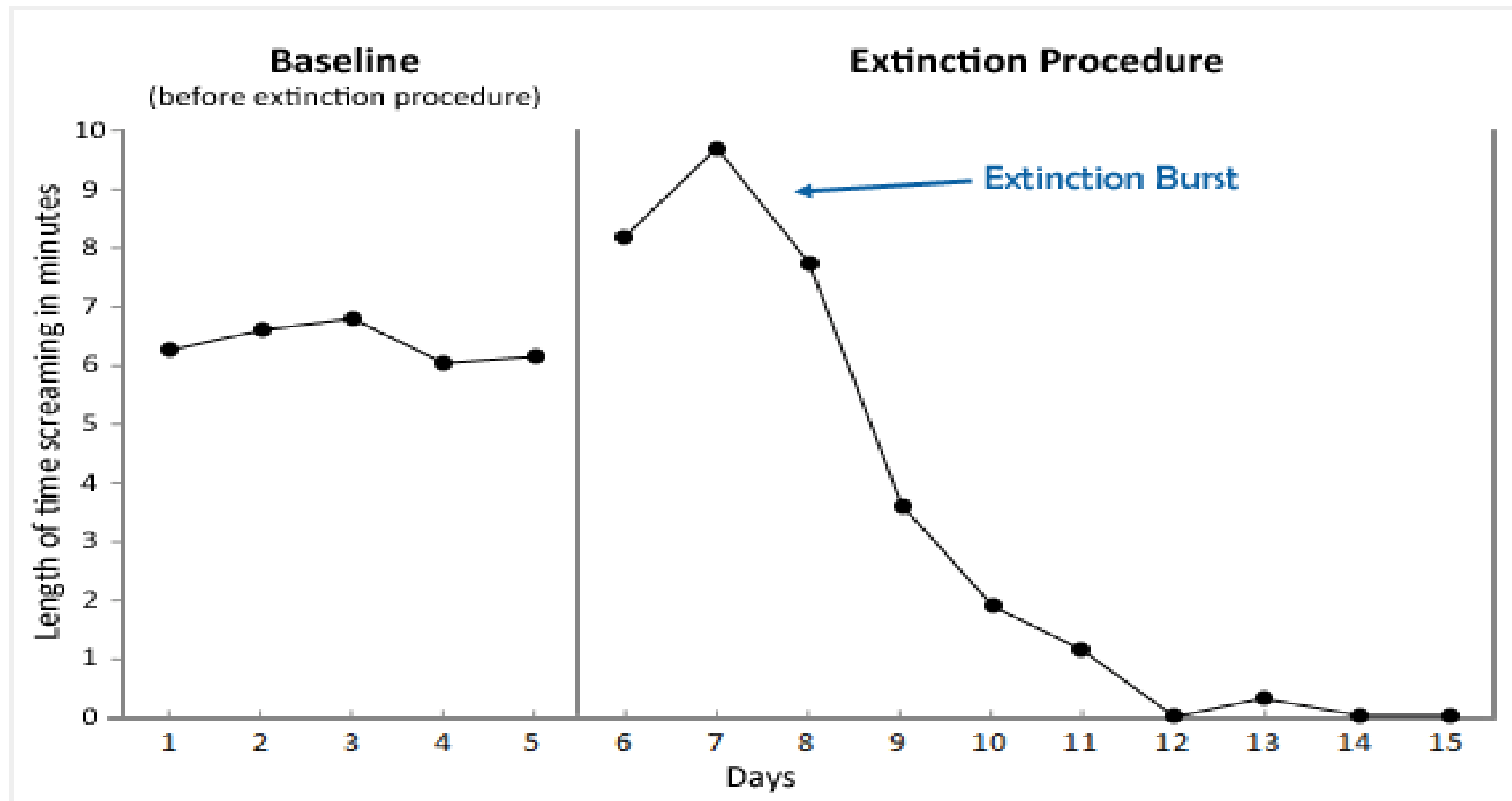
EFFECT OF EXTINCTION ON BEHAVIOR

- When extinction is implemented *correctly* and *consistently* a **gradual reduction** in behavior is observed over time.
- **Extinction burst:** initial increase in behavior (can be above baseline levels) before a decrease in behavior is observed when extinction is implemented
- Behavior “gets worse” before it “gets better”
- Important to remain consistent with implementation if an extinction burst occurs. Team should plan for this possibility.

EXTINCTION BURSTS

- Extinction bursts usually suggest that the reinforcer(s) maintaining the problem behavior was successfully identified, indicating that there is a good chance of an effective intervention

EXTINCTION: EFFECT ON BEHAVIOR



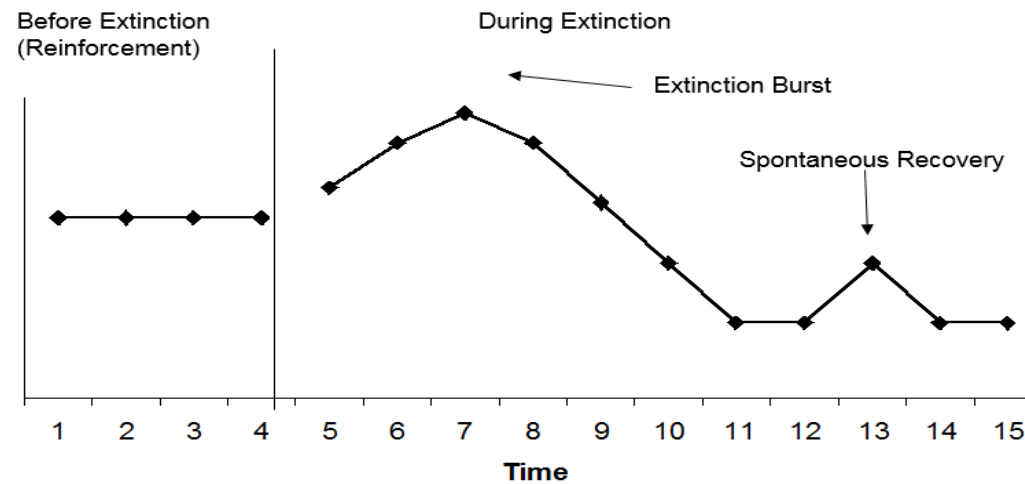
EXTINCTION EFFECTS: SPONTANEOUS RECOVERY

- Spontaneous Recovery
 - The behavior that diminished during the extinction process recurs even though the behavior does not produce reinforcement
 - Short-lived and limited if the extinction procedure remains in effect.

EXTINCTION EFFECTS

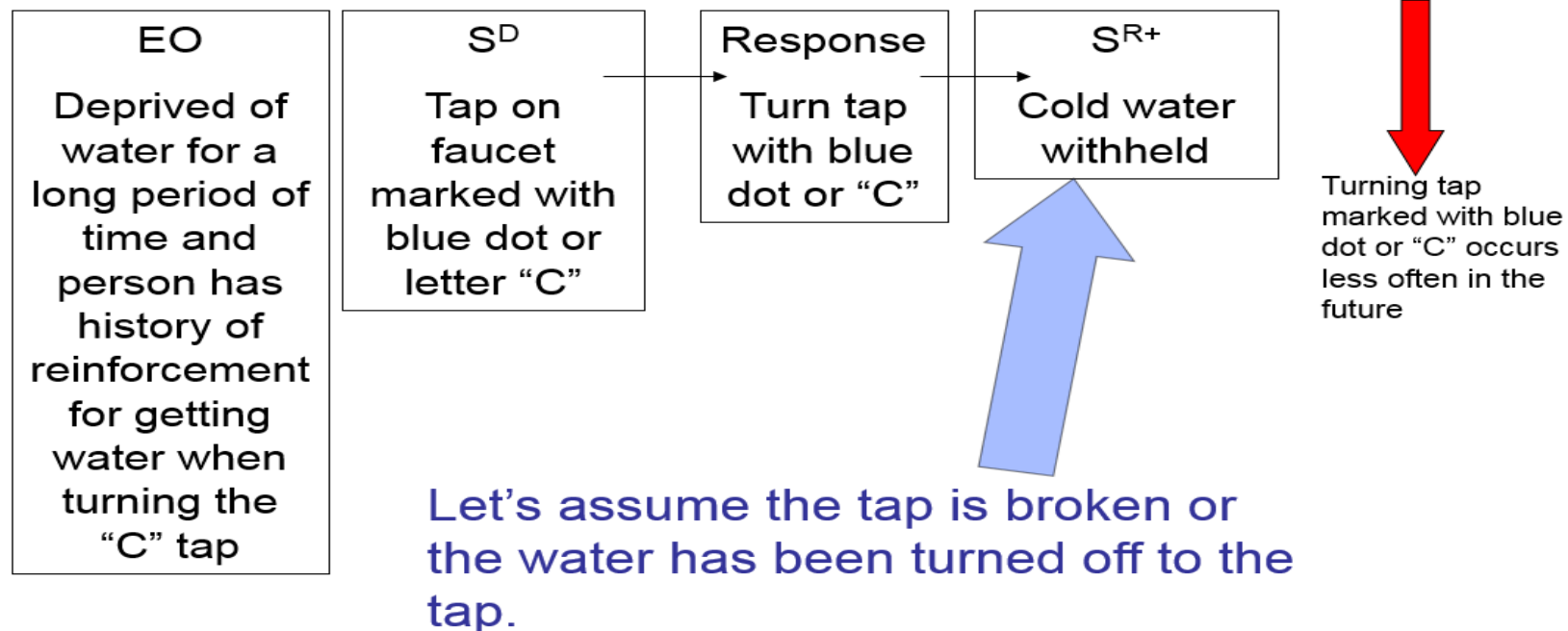
Extinction Effects

- Extinction Burst



EXTINCTION EFFECTS

Diagram of Extinction



EXTINCTION

- Advantage: does not require aversive procedures
- Effectiveness depends on:
 - Correct identification of function
 - Consistent application
- Extinction does not prevent occurrences of problem behavior
- Environment is changed so that problem behavior does not produce reinforcing consequences anymore

MISUSE OF EXTINCTION

- Often extinction is equated with ignoring a behavior
- This is an example of extinction only under what circumstance?
- Extinction is not the same as ignoring problem behavior, rather it differs according to the function of the behavior, or what reinforcer the problem behavior is producing.

MISUSE OF EXTINCTION

- Using “extinction” to refer to any decrease in behavior
 - Some use the term extinction when referring to any decrease response performance, regardless of what produced the behavior change.
 - Labeling any reduction in behavior that reaches a zero rate of occurrence as extinction is a common misuse of the term.

HOW TO IMPLEMENT EXTINCTION

■ **Attention Extinction**

- Implemented for problem behavior maintained by positive reinforcement: attention
- **Ignore the problem behavior**
- This means no eye contact, no verbal statements, no physical contact with the client – NOT even scolding or “negative” attention!
- Can be difficult to implement
- If the individual is receiving inadvertent attention (sometimes this means our nonverbal body language), extinction procedure will be ineffective

HOW TO IMPLEMENT EXTINCTION

■ **Escape Extinction**

- Implemented for behavior maintained by negative reinforcement: escape from demands
- **DO NOT allow the problem behavior to produce delay or termination of task**
- Continue to represent demand or instructions and prompt follow through
- Can also be difficult to implement, especially if you cannot physically ensure follow through with a task demand, if this is the case you may want to opt for an alternative intervention

HOW TO IMPLEMENT EXTINCTION

■ **Extinction: Access to Tangible Items**

- Implemented when behavior is maintained by positive reinforcement in the form of access to desired items/activities
- **DO NOT allow the problem behavior to produce access to the desired item**
- Item/activity is withheld contingent upon problem behavior
- Appropriate behavior can yield access to desired items –such as using a communicative response to request (i.e. verbal, PECS, sign, etc.)

HOW TO IMPLEMENT EXTINCTION

- **Sensory Extinction**

- Implemented for behaviors maintained by automatic reinforcement
- **Mask or remove the sensory consequence for the behavior**
- Can be difficult to determine the specific sensory consequence
- May be impossible to prevent or eliminate

OVERVIEW OF EXTINCTION PROCEDURES

Function of behavior	Extinction Procedure
Attention (positive reinforcement)	Ignore the behavior (no eye contact, verbal statements or reprimands, no physical contact with the individual)
Escape (negative reinforcement)	Do not allow the problem behavior to produce the termination of a task/activity OR delay the completion of the demand given. Continue to represent the demand or instruction and prompt completion or follow through.
Tangible (positive reinforcement)	Do not allow the problem behavior to produce access to a desired item/activity.
Automatic reinforcement	Mask or remove the sensory consequence for the behavior. Sensory extinction can be more difficult to implement as the specific reinforcing consequence might be difficult to determine or impossible to eliminate. For example, if an individual is scratching their body (due to the tactile consequence it produces) we can remove the sensory consequence by putting a glove on the individual's hand and then gradually fading the use of the glove.

VARIABLES TO CONSIDER WHEN IMPLEMENTING EXTINCTION

- Continuous and intermittent reinforcement
- Continuous reinforcement: each response is reinforced
 - Reduce at a faster rate when behavior is put on extinction
- Intermittent reinforcement: each response is not reinforced, only some responses are
 - More resistant to extinction
 - Greater number of trials needed to come in contact with contingency

VARIABLES TO CONSIDER WHEN IMPLEMENTING EXTINCTION

- History of Reinforcement
 - Behavior has produced the reinforcing consequence for a significant duration of time
 - Behavior will be more resistant to extinction than behaviors with a short history of reinforcement

VARIABLES TO CONSIDER WHEN IMPLEMENTING EXTINCTION

- Motivation to respond
- Behavior might be more resistant to extinction if the motivation to engage in the behavior is high
- For example, problem behavior previously produced access to food. Child is very hungry (EO), problem behavior may be more resistant to extinction under these conditions.

VARIABLES TO CONSIDER WHEN IMPLEMENTING EXTINCTION

- Extinction produced aggression
 - When one behavior is placed on extinction, you might observe other non-targeted problem behaviors
 - Extinction can generate novel responding
 - Emotional behaviors, such as aggression, can occur when a target behavior is placed on extinction
- When implementing extinction it is wise to teach an appropriate way to gain the same reinforcer
- Extinction is rarely used alone or as a sole intervention because it does not teach an alternative response

PLANNING FOR EXTINCTION PRODUCED AGGRESSION

- Behaviors that occurred infrequently in the past will sometimes become prominent during extinction by replacing the problem behaviors. Frequently, these side effect replacement behaviors are aggressive (Lerman et al., 1999)

VARIABLES TO CONSIDER WHEN IMPLEMENTING EXTINCTION

- Number of Extinction Trials
 - Increasing the Number of Extinction Trials
 - An extinction trial occurs each time the behavior does not produce reinforcement.
 - Whenever possible, applied behavior analysts should increase the number of extinction trials for the problem behaviors.

UNINTENTIONAL EXTINCTION OF DESIRED BEHAVIOR

- It is important to consider the effects of extinction on desired behaviors as well
- Let's look at an example.
 - Our student was receiving reinforcement each time they made eye contact with the teacher in the form of an edible item. The teacher was thrilled that this response was increasing. Once the child was looking at least 80% of conducted trials, the teacher eliminated the use of the edible. She was disappointed to find that over the next week, eye contact decreased again.
 - Highlights the importance of fading/intermittent reinforcement

BEHAVIOR HIERARCHY

