

Module: Extinction

Steps for Implementation: Extinction

Sullivan, L. & Bogin, J. (2010). *Steps for implementation: Extinction*. Sacramento, CA: The National Professional Development Center on Autism Spectrum Disorders, M.I.N.D Institute, University of California at Davis School of Medicine.

Implementing extinction procedures to reduce an interfering behavior (disruptive or restricted behavior that interferes with optimal development, learning, and/or achievement) for children and youth with autism spectrum disorders includes the steps described below.

Step 1. Identifying the Interfering Behavior

When starting an extinction program, the first step is to identify the behavior that is interfering with a learner's development and learning. Interfering behaviors might include disruptive, self-injurious, and/or repetitive/stereotypical behaviors. To identify a behavior, teachers and other practitioners (speech-language pathologists, behavioral specialists, paraprofessionals, and other team members) gather information from numerous individuals regarding the topography, frequency, intensity, location, and duration of the behavior.

1. Teachers/practitioners define the interfering behavior by focusing on:
 - a. what the behavior looks like (topography),
 - b. how often the behavior occurs (frequency),
 - c. how intense the behavior is (intensity),
 - d. where the behavior occurs (location), and
 - e. how long the behavior lasts (duration).

Step 2. Identifying Data Collection Measures and Collecting Baseline Data

1. Teachers/practitioners identify data collection measures to be used to assess the interfering behavior before implementing the intervention.

When collecting data for extinction, it is important to focus on the frequency, duration and intensity of the behavior. Data collection sheets which measure these characteristics will be most appropriate for extinction.

2. Teachers/practitioners gather baseline data on the interfering behavior.

The data collection measures determined above would be used, along with the information gathered in Step1, to determine the nature of the interfering behavior prior to the intervention.

During the baseline phase, it is important to collect data for a long enough period of time to determine if there is some consistency in the behavior. Teachers and/or other practitioners should decide how long data will be collected (e.g., one week, two weeks), and what will happen if there are not enough data to be considered useful (e.g., redesign the data collection method,

Module: Extinction

observe at a different time). Baseline data collection is important in order to assess the impact of the intervention on the interfering behavior.

The teachers/practitioners also must decide who will collect the initial data. For example, it might be easiest for a paraprofessional to collect data across the day. The team also may decide that it would be easier to have an objective observer collect data rather than the classroom teacher who is in the middle of a lesson.

Step 3. Determining the Function of the Behavior

1. Prior to implementing the intervention, teachers/practitioners interview school staff, family members, and the learner (if appropriate).

An important part of determining the function of the behavior is to interview team members about the nature of the interfering behavior. Team members may provide information about the functions of the interfering behavior in different contexts and the different forms of the behavior that serve the same function.

2. Prior to implementing the intervention, teachers/practitioners use direct observation methods to hypothesize the function of the interfering behavior that include:
 - a. *A-B-C data* (antecedent, behavior, consequence).
 - i. When determining the function of the behavior, teachers and other practitioners also must identify what happens right before the behavior (i.e., antecedents) and what happens immediately after the behavior occurs (i.e., consequences). For example, a teacher gives a direction to a student to line up with the class to go outside (antecedent), the student has a tantrum (behavior), the teacher allows the student to remain inside to calm down (consequence). In this example, the behavior appears to have an escape function. For additional examples of ABC data charts, see *Steps for Implementation: Functional Behavior Assessment* (National Professional Development Center on Autism Spectrum Disorders).
 - b. *anecdotal observation*.
 - i. This may involve compiling a running log of the behavior during observation sessions.
 - c. *functional analysis*.
 - i. Once this information is gathered, a functional analysis can be completed that tests the proposed function of the Interfering Behavior against actual behavioral observations. For greater detail on completing a functional analysis, please consult the Functional Behavior Assessment module.
3. Teachers/practitioners identify the function of the behavior as one of the following:
 - a. securing attention,
 - b. accessing tangible items (for example, the child cries until the parent gives her a toy that had been out of reach).

Module: Extinction

- c. escaping/avoiding a task or situation, and/or,
- d. sensory reinforcement (for example, the light reflecting off of a spinning object is appealing (reinforcing) to a student who stereotypically spins objects.).

Step 4. Creating an Intervention Plan

1. Teachers/practitioners clearly write out extinction procedures (e.g., “When the learner does X, we will respond by doing Y”) by:
 - a. preparing a list of possible learner responses to the intervention and
 - b. determining appropriate teacher/staff responses.

The first phase of Step 4 is to clearly write out the intervention procedures. Teachers/practitioners might prepare a list of possible learner responses to the intervention and determine appropriate teacher/staff responses. For example, if a student is raising his/her hand repeatedly and the function is hypothesized to be gaining attention, the teacher can plan to ignore the student’s hand raising.

2. Teachers/practitioners define other strategies to be used along with the extinction procedure.

An important part of creating the plan is to define how extinction procedures will be incorporated with other intervention strategies. The following list includes other intervention strategies that might be considered. Additional information regarding these strategies is available in separate briefs.

- *Functional communication training (FCT)*
- *Differential reinforcement.*
- *Non-contingent reinforcement.*
- *Response interruption/redirection.*

3. Teachers/practitioners define the extinction procedures that the team will follow such as:
 - a. ignoring the behavior,
 - b. removing reinforcing items or activities,
 - c. disallowing escape from non-preferred situations, or
 - d. preventing sensory feedback from occurring.

Some examples of how to use extinction procedures based on the four common functions of behavior are provided in the following table. The purpose of extinction is to reduce an interfering behavior, but it is very important to also teach or promote a replacement behavior, an appropriate behavior that would take its place. When using extinction, practitioners should determine the appropriate replacement behavior and strategies for promoting it. Options for such complementary interventions appear in the last column of the table.

Module: Extinction

TABLE 1. Extinction Procedure Examples

Function of Behavior	Extinction Procedure	Example	Other Procedures Useful in Conjunction with Extinction
To gain attention	Planned ignoring	Learner is calling out to get the teacher's attention, and the teacher does not respond to the calls.	<ul style="list-style-type: none"> • Functional Communication Training (FCT) • Differential reinforcement • Non-contingent reinforcement
To escape/avoid demands or interaction	Deny opportunity for breaks	Learner screams whenever he is asked to complete a new task to avoid the demand. The teacher/practitioner continues with task even though the learner is screaming.	<ul style="list-style-type: none"> • Functional Communication Training (FCT) • Differential reinforcement • Non-contingent reinforcement
To gain sensory stimulation or to avoid unwanted stimulation	Interrupt and re-direct the behavior <i>OR</i> change the consequence (from the sensory behavior) so it is no longer reinforcing	Learner bangs his head on a desk so the teacher puts a soft pillow to block the reinforcing sensation.	<ul style="list-style-type: none"> • Response interruption/redirection • Functional Communication Training (FCT) • Differential reinforcement • Non-contingent reinforcement
To gain tangible items	Deny access to materials	Learner screams to get time on a computer and is denied access.	<ul style="list-style-type: none"> • Functional Communication Training (FCT) • Differential reinforcement • Non-contingent reinforcement

4. Teachers/practitioners outline an extinction burst safety plan (i.e., what staff/family should do when the behaviors get worse before they get better).

Module: Extinction

It is important to anticipate that the behavior will possibly get worse for a little while before it gets better. This is sometimes called an extinction burst. Planning for a possible extinction burst includes determining an appropriate response. This requires developing a clear plan to handle a possible increase in the interfering behavior. In the above example of a student who is kicking to escape demands, the extinction burst plan would describe what actions to take if the student starts kicking other students. For example, if during the extinction burst, the student kicks even more than usual, the teacher/practitioner simply ignores the kicking and continues with task demands.

5. Teachers/practitioners discuss the intervention with all adults who are with the learner with ASD on a regular basis (e.g., therapists, paraprofessionals, family members).
6. Teachers/practitioners explain the intervention procedures to other students who are in close proximity to the learner with ASD when the interfering behavior occurs (e.g., in the same class, at lunch).

Other students also may be alerted to the intervention plan and possible extinction burst.

Step 5. Implementing the Intervention

1. Teachers/practitioners wait for the behavior to occur and respond by:
 - a. planned ignoring,
 - b. denied access
 - c. escape extinction
 - d. sensory extinction
2. Teachers/practitioners promote a replacement behavior using a complementary intervention approach such as functional communication training or differential reinforcement of other more appropriate behaviors.
3. Teachers/practitioners continue to respond as planned during the duration of the behavior.

Step 6. Collecting Outcome Data

In Step 6, teachers and practitioners again measure the topography, frequency, intensity, location, and duration of the problem behavior following the extinction intervention. This process should include getting input from team members as well as making direct observations of the learner in the setting where the behavior occurs. A-B-C data (antecedent, behavior, consequence) should also be collected at this time. Gathering thorough data regarding the interfering behavior is an important step in determining if the intervention is working.

1. Teachers/practitioners collect outcome data that focuses on:
 - a. what the behavior looks like (topography),

Module: Extinction

- b. how often the behavior occurs (frequency),
 - c. where the behavior occurs (location),
 - d. how intense the behavior is (intensity), and
 - e. how long the behavior lasts (duration).
2. Teachers/practitioners collect data in the setting where the behavior occurs.
 3. Teachers/practitioners compare intervention data to baseline data to determine the effectiveness of the intervention.

Step 7. Reviewing the Intervention Plan

After collecting outcome data on the interfering behavior, the next step is to review the effectiveness of the intervention plan. Depending on the response of the learner to the extinction strategy, modifications may need to be made to the procedures. Once modifications are in place, frequent follow-up observations are necessary to determine if the interfering behavior has been eliminated. It also is important to consider if new interfering behaviors have developed in place of the original interfering behavior.

1. All relevant team members meet to discuss intervention data and to determine its effectiveness.
2. Teachers/practitioners modify the intervention plan if the learner continues to exhibit the interfering behavior by:
 - a. changing the way they respond to the behavior,
 - b. changing the length of time they ignore or respond to the behavior,
 - c. expanding the plan to other settings,
 - d. having other team members implement the intervention plan, or
 - e. adapting the plan to new behaviors which may have arisen.
3. Teachers/practitioners collect data at least weekly to determine the effectiveness of the intervention on reducing the interfering behavior.
4. Teachers/practitioners identify new interfering behaviors as they arise.