PREFERENCE AND REINFORCER ASSESSMENTS

Effectively motivating learners
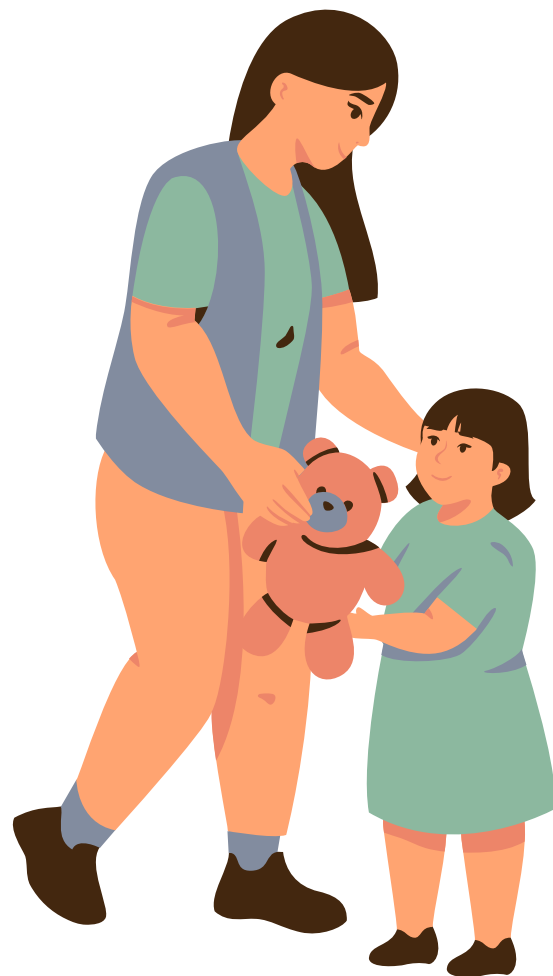
About the Author

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Amelia Dalphonse is a Board Certified Behavior Analyst (BCBA), having earned a Master's in ABA from Ball State University in Muncie, Indiana. She has been working with children since receiving her Bachelor's in Early Childhood Education in 1996, and has been working specifically with children with autism since 2009. Her passion is helping children with autism and their families meet their full potential. You can find the story of how she became involved with children with autism at https://masteraba.com/about.

Together with her twin sister, Dianna Kelly, she runs Master ABA to provide the support professionals are so often missing in the field. Dianna has a passion for learning, teaching, writing and helping others that have been instrumental in the success of Master ABA.

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Introduction

Conducting a preference or reinforcer assessment is crucial for designing an effective and individualized ABA program that meets the specific needs of the individual. Preference for objects and activities is often fluid, changing due to satiation, time of day, environmental or other factors. A diverse assortment of potential reinforcers offers the greatest opportunity for effective intervention. Reinforcer and preference assessments provide valuable insight into the motivation of your learner.

There are 6 reasons why you need to include preference and reinforcer assessments in your ABA program:

1 Identify preferred items or activities

2 Individualize the program

3 Increase motivation

4 Increase effectiveness

5 Decrease negative behaviors

6 Make necessary adjustments

Introduction

1. Identify preferred items or activities: A preference assessment can help identify items or activities that the individual finds most reinforcing, which can then be used to reinforce specific behaviors.
2. Individualize the program: Every individual has unique interests and preferences, and a preference or reinforcer assessment can help individualize the ABA program to meet the specific needs of the individual.
3. Increase motivation: By using preferred items or activities as reinforcers, individuals are more likely to be motivated to engage in the desired behavior.
4. Increase effectiveness: Using effective reinforcers can increase the effectiveness of the ABA program, as individuals are more likely to engage in desired behaviors if they are reinforced with items or activities they find reinforcing.
5. Decrease negative behaviors: By using positive reinforcement, negative behaviors are less likely to occur as the individual is motivated to engage in desired behaviors.
6. Make necessary adjustments: Conducting preference or reinforcer assessments on a regular basis can help you make necessary adjustments to the ABA program as the learner's preferences change over time.

Utilizing effective reinforcers during teaching reduces maladaptive behavior while increasing the accuracy of responding (Mason, McGee, Farmer-Dougan, & Risley, 1989). Without conducting preference and reinforcer assessments, your ABA program is subject to your "hope" that what you offer the learner is effective.

Introduction

CHARACTERISTICS OF AN EFFECTIVE REINFORCER

Preferences for items and activities vary over time and often moment by moment. Many different factors impact the effectiveness of a reinforcer at any given point in time.

Speed of delivery

Satiation/ Deprivation

Contingency/ Response effort

Individual preference
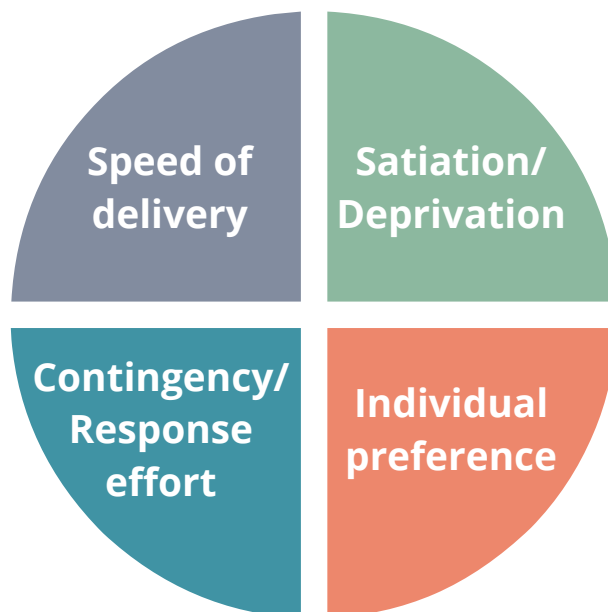
Reinforcers are most effective when:
- They are delivered immediately after the desired behavior
- The learner is not satiated on the item or activity
- The learner does not otherwise get free access to the item or activity and the response effort required aligns with the value of the reinforcer
- The learner demonstrates interest in or motivation for the item or activity in the moment

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Preference vs Reinforcer Assessments

PREFERENCE VS REINFORCER ASSESSMENTS

What's the Difference?

In Applied Behavior Analysis (ABA), preference assessment and reinforcer assessment are two types of assessments that are commonly used to identify preferred items, activities, and events that can be used as rewards or consequences for behavior.

PREFERENCE VS REINFORCER

Preference assessment is used to determine what an individual likes or prefers. It involves presenting the individual with a variety of items, activities, and events and observing which ones they engage with the most or show the most interest in.

The goal of a preference assessment is to identify the individual's preferences so that they can be used as motivators or rewards for desired behaviors.

Preference assessments can be conducted in a variety of ways, including free operant preference assessments, single stimulus preference assessments, and multiple stimulus preference assessments.

Reinforcer assessment, on the other hand, is used to identify which items, activities, or events actually function as reinforcers for specific behaviors. It involves systematically manipulating the consequences of behavior and observing which consequences increase the likelihood of the behavior occurring again in the future.

The goal of a reinforcer assessment is to identify the specific consequences that can be used to increase the frequency or duration of a target behavior. Reinforcer assessments can be conducted in a variety of ways, including the progressive ratio schedule, the multiple schedule, and the paired-stimulus preference assessment.

2

Preference
Assessments

Preference Assessments

5 DIFFERENT TYPES

There are several options when trying to identify potential reinforcers. They vary in the amount of time and effort they take to conduct. Each type of preference assessment has its own advantages and disadvantages, and the choice of assessment will depend on the individual's needs and the specific goals of the intervention.

1 FREE OPERANT

2 SINGLE STIMULUS

3 PAIRED STIMULUS

4 MSWO

5 MSW

Preference Assessments
free operant

According to Cooper, Heron and Heward (2007), "the activities that a person engages in most often when able to choose freely from among behaviors will often serve as effective reinforcers when made contingent on engaging in low-probability behaviors."

What this means is if you pay attention to what a learner does when given the chance to do anything, those behaviors he engages in can serve as reinforcers. This is a free operant observation.

During a free operant observation, the learner has unlimited access to anything available in the environment. You can create a contrived free operant observation by adding items to the environment that you suspect may be of interest to the learner or you may choose to conduct a naturalistic free operant observation and only allow items natural to the environment. In either case, you will observe the total duration the learner engages in each activity to arrive at a rank order.

A major benefit to free operant assessments is the ability to observe the learner engage in stereotypic behavior. For some learners, stereotypies hold some powerful reinforcing value. Many learners can't say that what they really want to do is engage in stereotypy. Often the only way to know this is to watch the learner.

Preference Assessments

FREE OPERANT

The data you collect depends on the frequency of your assessments and the needs of your learner. During a free operant preference assessment, you may want to make note of how the learner engages with each item including:

- Speed of approach
- Strength of response
- Total engagement time
- Frequency of approaches

Preference Assessment: Free Operant Format

Individual's Name: _____ Evaluator: _____ Date: _____

Instructions:
1. Present learner with a room where potential reinforcers have been placed throughout.
2. Note which item learner engages with.
3. Record the amount of time the learner engages with each item.
4. When the learner moves on to a new item, enter that item on the data sheet.
5. Use a variety of items and types of items in this assessment.

Item: _____

Selection	1	2	3	4	5	6	7	8
Duration								

Item: _____

Selection	1	2	3	4	5	6	7	8
Duration								

Preference Assessment Observation Data Sheet

Observer: _____ Date: _____

Learner:

Item/Activity	Speed of Approach (slow, medium, fast)	Strength of Response (weak, strong, very strong)	Total Engagement Time	Frequency of Approaches	Notes

3	4	5	6	7	8

3	4	5	6	7	8

3	4	5	6	7	8

Your data sheet might look similar to either one pictured here.

Preference Assessments
single stimulus

The single stimulus assessment is a trial-based assessment during which stimuli are presented one at a time. It is also referred to as the successive choice method of stimulus presentation during an assessment. Present each item one at a time in a random order and note the learner's reaction to the item. Does he accept or reject the item? Note how long he engages with each item. Each item should presented multiple times varying the sequence of presentation.

While this method offers a simple solution, it also provides limited information. You may be able to get some idea of level of preference when you collect data on how long the learner engages with each item, but by the end of your assessment, the learner may be satiated with his highest preferred items. This method of presentation may be best suited to reduce the number of items presented during a more structured assessment.

Use a data sheet similar to the one pictured below to record your data.

Preference Assessment: Single-Stimulus Format

Client's Name: _____

Instructions:
1. Use 3 items per session. Allow the individual to contact novel items before the session begins.
2. Place Item A in front of the individual. If approach, deliver the item and mark "+" for Trial #1. If refusal or no response in 5 sec, remove the item and mark "-" for that trial.
3. Repeat with Items B and C. Continue until all items have been presented 10 times each.
4. Record the total number of times each item was approached.

Evaluator:_____Date: _____

Item:	Trials:	1	2	3	4	5	6	7	8	9	10	Total
A_____		+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	_____
B_____		+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	_____
C_____		+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	_____

Preference Assessments
PAIRED STIMULUS

A paired choice (also called paired stimulus or forced choice) assessment systematically presents all selected items paired with each other and alternating sides of presentation. This is the most time consuming of all of the preference assessments, but provides reliable information about the hierarchy of preferences for your client.

When you struggle to identify effective reinforcers for your client, it may be worth your time and effort to conduct this formal assessment; however, it can be confusing and difficult to run accurately. The data sheet specifies which items you're comparing and shows in which position (left or right) the item should be placed. Circle the letter corresponding to the item selected. Find the total number of times each item was selected and then calculate the percentage to find your rank.

Trial	Pairs	Trial	Pairs	Trial	Pairs	Trial	Pairs
1	A vs B	8	F vs H	15	C vs G	22	B vs H
2	C vs D	9	A vs D	16	D vs H	23	C vs E
3	E vs F	10	B vs C	17	A vs F	24	C vs F
4	G vs H	11	E vs H	18	B vs E	25	A vs H
5	A vs C	12	F vs G	19	C vs H	26	B vs G
6	B vs D	13	A vs E	20	D vs G	27	D vs F
7	E vs G	14	B vs F	21	A vs G	28	D vs E

Item   # Trials   Item   # Trials
                                         Selected   Selected

A_____   _____   E_____   _____
B_____   _____   F_____   _____
C_____   _____   G_____   _____
D_____   _____   H_____   _____

Preference Assessments

MSW/MSWO

Multiple stimuli with or without replacement provides a rank order of preference for the presented stimuli. When conducting these assessments, present an array of stimuli in random order and ask the learner to choose 1 item. Allow the learner a few moments to engage with the item before taking it and either returning it to the array (MSW) or removing it from the array (MSWO).

Through repeated presentation, the learner selects his most reinforcing choices. The MSWO with as few as 3 items can provide you with a ranking of potential reinforcers (Carr, Nicolson, & Higbee, 2000).

For many learners, frequent preference assessments are necessary to maintain motivation. Multiple stimuli assessments provide a quick way to identify potential reinforcers in any given moment.

Preference Assessment: Multiple Stimulus Format

Individual's Name:_____ Evaluator:_____ Date: _____

Instructions:

1. Present student with an array of 5-8 items on a tray.
2. Note which item student selects from the tray. Repeat this process several times until the student is reliably choosing a preferred item.
3. Remove the most preferred item (the item most frequently selected in step 2). Conduct preference presentations until a second item is identified as preferred.
4. Continue this process until 3 to 5 items have been identified as preferred.
5. Use a variety of items and types of items in this assessment.
6. Using the most consistently preferred items, conduct the assessment again so that the preferred items can be ordered from most preferred.

Presentation: _____

Items Presented								
Item Selected:								

Preference Assessments
MSW/MSWO

Multiple stimuli with or without replacement provides a rank order of preference for the presented stimuli. When conducting these assessments, present an array of stimuli in random order and ask the learner to choose 1 item. Allow the learner a few moments to engage with the item before taking it and either returning it to the array (MSW) or removing it from the array (MSWO).

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1. Present student with an array of 5-8 items on a tray.
2. Note which item student selects from the tray. Repeat this process several times until the student is reliably choosing a preferred item.
3. Remove the most preferred item (the item most frequently selected in step 2). Conduct preference presentations until a second item is identified as preferred.
4. Continue this process until 3 to 5 items have been identified as preferred.
5. Use a variety of items and types of items in this assessment.
6. Using the most consistently preferred items, conduct the assessment again so that the preferred items can be ordered from most preferred.

Presentation: _____

Items Presented								
Item Selected:								

3

Choosing Assessments

Choosing
Assessments
PREFERENCE

With all of the options listed above, how do you choose the right assessment for your situation?

Cooper, Heron and Heward (2007) offer some advice in choosing an assessment:

- Pay attention to your client's activities before the assessment to determine what EOs may impact the assessment
- Determine if it's more important to identify a reinforcer quickly or more accurately
- Decide if you want an assessment that ranks different stimuli or if you prefer one that occurs more frequently to address changes in preference
- Use a brief assessment with a smaller array of stimuli when time is limited
- Consider using data from different assessment methods to obtain the most accurate results

Although there may be times when it makes the most sense to conduct a thorough, contrived assessment, research shows that frequent, brief assessments provide sufficient information to identify potential reinforcers. Roane, Vollmer, Ringdahl, Marcus, (1998) found that conducting a brief 5 minute free-operant assessment reliably identified potential reinforcers without the need for relying on more time-consuming methods like the paired-choice assessment.

Choosing
Assessments
REINFORCER

Ensure the most effective use of reinforcers by routinely monitoring the effectiveness of reinforcers using reinforcer assessments. Regular systematic reinforcer assessments lead to reduced maladaptive behavior and higher correct responding (Mason, McGee, Farmer-Dougan, & Risley, 1989). Reinforcer effectiveness occurs along a continuum rather than as distinct extremes (effective or not effective), thus these assessments provide a hierarchy of effective reinforcers.

Three variations of reinforcer assessments allow for a thorough analysis of reinforcer effectiveness:

C

CONCURRENT
Compare the effects of two stimuli to determine which will produce the more desirable effect in responding and/or behavior reduction when presented as a consequence.

M

MULTIPLE
Compare the effects of two stimuli across two separate sessions using the same schedule of reinforcement for the same behavior with a specific SD present that signals which reinforcer is available during that session.

P

PROGRESSIVE
Compares the relative response effort a learner is willing to emit to gain access to a given reinforcer. The interventionist systematically increases the response required for the learner to achieve reinforcement, regardless of responding.

4

References and Related Reading

RESOURCES
References and Related Reading

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Preference Assessment: Free Operant Format

Individual's Name: _____   Evaluator: _____   Date: _____

Instructions:
1. Present learner with a room where potential reinforcers have been placed throughout.
2. Note which item learner engages with.
3. Record the amount of time the learner engages with each item.
4. When the learner moves on to a new item, enter that item on the data sheet.
5. Use a variety of items and types of items in this assessment.

Item: _____

Selection	1	2	3	4	5	6	7	8
Duration								

Item: _____

Selection	1	2	3	4	5	6	7	8
Duration								

Item: _____

Selection	1	2	3	4	5	6	7	8
Duration								

Item: _____

Selection	1	2	3	4	5	6	7	8
Duration								

Item: _____

Selection	1	2	3	4	5	6	7	8
Duration								

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Preference Assessment: Paired-Stimulus Format

Individual's Name: _____

Evaluator: _____ DATE: _____

Instructions:

1. Use 8 items per session. Allow the individual to contact novel items before the session begins.

2. Present 2 items on each trial (see below) on the side indicated in the chart. Separate each item by at least 14 inches side by side in front of the individual and instruct the individual to select one.

3. Circle the letter corresponding to the item selected and remove the unselected item. If no item is selected in 5 sec, remove them and put a slash mark through the trial.

4. Continue until all pairs have been presented.

5. Record the total number of times each item was selected.

Trial	Pairs	Trial	Pairs	Trial	Pairs	Trial	Pairs
1	A vs B	8	F vs H	15	C vs G	22	B vs H
2	C vs D	9	A vs D	16	D vs H	23	C vs E
3	E vs F	10	B vs C	17	A vs F	24	C vs F
4	G vs H	11	E vs H	18	B vs E	25	A vs H
5	A vs C	12	F vs G	19	C vs H	26	B vs G
6	B vs D	13	A vs E	20	D vs G	27	D vs F
7	E vs G	14	B vs F	21	A vs G	28	D vs E

Item	# Trials Selected	Item	# Trials Selected
A_____	_____	E_____	_____
B_____	_____	F_____	_____
C_____	_____	G_____	_____
D_____	_____	H_____	_____

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Preference Assessment: Multiple Stimulus Format

Individual's Name: _____   Evaluator: _____   Date: _____

Instructions:
1. Present student with an array of 5-8 items on a tray.
2. Note which item student selects from the tray. Repeat this process several times until the student is reliably choosing a preferred item.
3. Remove the most preferred item (the item most frequently selected in step 2). Conduct preference presentations until a second item is identified as preferred.
4. Continue this process until 3 to 5 items have been identified as preferred.
5. Use a variety of items and types of items in this assessment.
6. Using the most consistently preferred items, conduct the assessment again so that the preferred items can be ordered from most preferred.

Presentation: _____

Items Presented								
Item Selected:								

Presentation: _____

Items Presented								
Item Selected:								

Presentation: _____

Items Presented								
Item Selected:								

Presentation: _____

Items Presented								
Item Selected:								

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Preference Assessment: Single-Stimulus Format

Client's Name: _____

Instructions:

1. Use 3 items per session. Allow the individual to contact novel items before the session begins.
2. Place Item A in front of the individual. If approach, deliver the item and mark "+" for Trial #1.
If refusal or no response in 5 sec, remove the item and mark "-" for that trial.
3. Repeat with Items B and C. Continue until all items have been presented 10 times each.
4. Record the total number of times each item was approached.

Evaluator: _____ Date: _____

Item:	Trials:	1	2	3	4	5	6	7	8	9	10	Total
A_____		+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	_____
B_____		+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	_____
C_____		+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	_____

Evaluator: _____ Date: _____

Item:	Trials:	1	2	3	4	5	6	7	8	9	10	Total
A_____		+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	_____
B_____		+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	_____
C_____		+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	_____

Evaluator: _____ Date: _____

Item:	Trials:	1	2	3	4	5	6	7	8	9	10	Total
A_____		+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	_____
B_____		+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	_____
C_____		+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	_____

Evaluator: _____ Date: _____

Item:	Trials:	1	2	3	4	5	6	7	8	9	10	Total
A_____		+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	_____
B_____		+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	_____
C_____		+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	_____