

# Multiple Stimulus Without Replacement (MSWO) Preference Assessment Session Description

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*Please note, this protocol is designed for use by professionals who have experience conducting preference assessments, and is not a substitute for formal training.*

DeLeon, I. G., & Iwata, B. A. (1996). Evaluation of a multiple-stimulus presentation format for assessing reinforcer preferences. Journal of Applied Behavior Analysis, *29*, 519-532.

**Purpose:** This is a validated empirical preference assessment designed to identify individual student's preferences for various stimuli. Research has demonstrated that preference rankings obtained via this assessment procedure predict reinforcer effectiveness. That is, higher preference stimuli are more likely to function as more powerful reinforcers than lower preference stimuli. It should be noted that this procedure provides a *relative* preference ranking, because stimuli are examined relative to one another. If staff are not familiar with a student, or know of only a few stimuli that seem preferred, then a structured interview (the RAISD\*) should be conducted with care providers to identify additional stimuli. **NOTE:** this procedure may not be appropriate for students who might impulsively select the first stimulus encountered. The student must be able to scan the entire array before responding. Therefore, careful consideration should be taken in determining the number of stimuli to include in the array.

## **Preparation:**

- Obtain proper consent from guardians.
- Define criteria for use of protective equipment, response blocking, and session termination base on risk for injury.
- Identify and operationally define target behaviors for data collection (optional).

**Materials:** between 6 to 10 stimuli, MSWO data sheet

**Procedure:** Ideally, sessions will be conducted in a room with no other children present and no materials nearby, other than those required for the assessment. Stimuli are presented simultaneously in an array. Once a stimulus is selected access to the other stimuli is blocked for the remainder of the trial. The stimulus selected is then removed from the array on subsequent trials. This procedure is repeated for at least 3 sessions, or until a stable preference emerges, or it is clear that stability will not occur after 5 times. All problem behavior is ignored.

### Pre-session Setup

- Setup datasheet and prepare materials.
- Setup a chair and table for the student.
- When assessing preference of edibles disinfect the table and wash hands (student, session therapist, anyone handling food).

### Pre-session Sampling

- Prior to beginning the assessment, seat the student at the table and allow them to sample each stimulus. For a toy, show the student how it works (e.g., press buttons, flip pages, turn on) and then place the stimulus on the table. If the student approaches the stimulus allow them 5-10s access (for edibles provide a small bite) and then repeat this procedure with the next stimulus.
- If the student does not approach the stimulus after 5s, the therapist will prompt the student to sample the stimulus for 5s. After sampling the item (or consuming the edible), present the stimulus again for 5s. If the student approaches, allow 5-10s access; if they do not approach move on to the next stimulus.

### Presentation

- Each session will begin with all stimuli quasi-randomly sequenced in a straight line on the table, each approximately 2 inches apart.
- At the start of session, seat the student at the table or bring them to the table.
- The therapist will instruct the student to select one stimulus (“pick one”). Allow the student access to the stimulus they chose for approximately 30s or until the student finishes the bite.
- Once the student has made a selection they should be blocked from accessing additional stimuli during that particular trial. Discuss with the supervisor if this is an issue for your student (e.g., may need to relocate the student, pull table away, move stimuli).
- If the student makes contact with more than one stimulus, give them the one they touched first.
- The stimulus selected will be removed (or not replaced for edibles) from the line up for subsequent trials during that session.
- Prior to beginning the next trial, the sequencing of the remaining stimuli will be rotated by taking the stimulus at the left end of the line and moving it to the right end, then shift the other stimuli so they will again be equally spaced on the table. The second trial will begin.
- Continue in this manner until all stimuli are selected or until the student makes no selection within 30s from the beginning of the trial. In the latter case, the session will be terminated and remaining stimuli will be recorded as “not selected.”

### Data Collection: use the MSWO data sheet

- Record the **stimulus selected** during each trial.
- **Target problem behavior (optional)** – record the frequency of problem behavior as defined individually for each student while they have access to the stimulus selected (note if problem behavior occurred after blocking access to other stimuli).

## Data Summary and Analysis

### Preference Data

- Input the number of trials each stimulus was selected, and the number of trials each stimulus was included in the array. Calculate the percentage of trials each stimulus was selected by dividing the number of times the stimulus was included in the array by the number of times it was selected.
- Examine stability of preferences to determine whether it is necessary to repeat the procedure more than 3 times.
- Calculate and average percentage of times each stimulus was selected across administrations, and sort the data in Excel so the stimuli are sorted from higher to lower preference.

### Problem Behavior Data (optional)

- Input the total number of problem behaviors emitted while the student had access to each stimulus during each trial. Calculate the rate of problem behavior while the student had access to each stimulus by dividing the total number of behaviors by the number of minutes the student had access to that particular stimulus.
- Calculate and average rate of problem behavior for each stimulus across administrations.

**Graphically depict** the preference hierarchy, with the stimuli listed on the x-axis, the percentage trials each stimulus was selected on the primary y-axis, and (optional) the rate of problem behavior on the secondary y-axis (use a double-bar bar graph or bar/line graph to depict preference and rate of problem behavior).

**Interpretation of Results: Preference Rankings.** This assessment procedure has been validated, and there is a high probability that the top ranked stimuli will function as more powerful reinforcers than the lower ranked stimuli. Of course, reinforcer effectiveness is not absolute, and a function of other factors including the response and the availability of other reinforcement. However, with all these factors being equal, the preference hierarchy obtained should generally predict reinforcer effectiveness.

\*RAISD – Reinforcer Assessment for Individuals with Severe Disabilities – is structured parent interview designed to identify stimuli to evaluate in a preference assessment.

Fisher, W.W. Piazza, C.C., Bowman, L.G., & Amari, A. (1996). Integrating caregiver report with a systematic choice assessment. American Journal on Mental Retardation, *101*, 15-25.

**MSWO Data Sheet**

Student Name: \_\_\_\_\_

Date: \_\_\_\_\_

Data Collector: \_\_\_\_\_

Primary / Reliability (circle one)

Session #: \_\_\_\_\_

Trial	Stimuli Selected	Target Behavior(s)	Notes
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			