Single Stimulus Engagement (SSE) Preference Assessment Session Description

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

Hagopian, L. P., Rush, K. S., Lewin, A. B., & Long, E. S. (2001). Evaluating the predictive validity of a single stimulus engagement preference assessment. Journal of Applied Behavior Analysis, 34, 475-486.

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 is an *absolute* preference ranking, because stimuli are examined singly and not 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.

Preparation:
- Obtain full and informed consent for assessment and treatment 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 that will receive consequences.
- Identify and operationally define target behaviors that will not receive consequences.
- Establish a system for collecting data on target behaviors, and evaluating inter-rater reliability.

Materials: between 6 to 12 stimuli, SSE 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 singly in a randomized order until all stimuli are presented. The procedure is repeated at least 3 times, or until a stable preference emerges (or it is clear that a stability will not occur after 5 times). All problem behavior is ignored.

Competing Stimulus Assessment Option: This procedure can be modified to be a Competing Stimulus Assessment (CSA) by recording stimulus engagement and problem behavior simultaneously. For this modification, a no-stimulus control trial should also be conducted while data are collected on problem behavior during all trials (see below).

Piazza, C. C., Fisher, W. W., Hanley, G. P., LeBlanc, L. A., Worsdell, A. S., Lindauer, S. E., & Keeney, K. M. (1998). Treatment of pica through multiple analyses of its reinforcing functions. Journal of Applied Behavior Analysis, *31*(2), 165-189.

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
- Randomly select one of the stimuli, and place it in front of the student on a table or chair (do not hand it to the student – but if he/she takes it from you, then allow him/her to do so)

Data Collection: use the SSE data sheet

<u>Engagement</u> – defined generally as interaction with the stimulus, moving towards the stimulus, consuming the stimulus (for edibles and tangible stimuli), or engaging in the activity (when the stimulus was an activity, such as playing catch with the therapist). This includes any attempt to manipulate, "experience" or consume the stimulus in a manner in which it is intended.

<u>Consumption</u> **may be defined differently for different types of stimuli:**
    <u>Visual stimuli</u> – 3 continuous seconds of eye contact
    <u>Edible stimuli</u> - eating object without spitting or taking any portion out of mouth (does not include edibles which leave the mouth due to drooling
    <u>Auditory stimuli</u>- Leaning toward music for 3 continuous seconds, rocking, or clapping to the music; vocalizing, humming or singing for 3 continuous seconds
    <u>Vestibular stimuli</u> - Sitting on the object and either attempting to rock or swing for 3 continuous seconds
    <u>Olfactory stimuli</u> - Being within 6 inches of object for 3 continuous seconds
    <u>Tactile stimuli</u> - Tolerating object for 3 seconds (leaning toward, holding or grasping, putting hand in on object). Holding or grasping object for 3s.
    <u>Social stimuli-</u> Tolerating or allowing the therapist to provide the social stimulus without pushing, pulling away, or attempting to aggress for 3s

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Avoidance Responses – Includes actively pushing/throwing away objects or moves body away within 3s of presentation, or negative vocalizations such as crying, screaming, or saying "get it away" or "no".

Problem Behavior (see Competing Stimulus Assessment option above) – as defined individually for each student.

Scoring - On the SSE data sheet, record the following within each 30-second interval:
- **Duration of engagement** – total duration of engagement during each 30-second interval. Use a 3-second onset/offset criteria – whereby, the student must be actively engaged with the stimulus for 3 consecutive seconds before the timer is started (onset); and must stop engaging with the stimulus for 3 consecutive seconds before the timer is stopped (offset). At the end of each 30-second interval, record the total number of seconds that the student was engaged with the stimulus.
- **Avoidance responses** – record frequency of avoidance responses during each interval.
- **Problem behavior** (optional) – record problem behavior as defined individually for each student during each interval.

Data Summary and Analysis

Engagement Data
- Input the total the total number of seconds of engagement for each stimulus into the spreadsheet. The spreadsheet will calculate the percentage of engagement by dividing the duration of engagement by the total number of seconds the stimulus was available (the default is set at 120 s – but it can be changed) and then multiplying by 100%.
- Examine changes in percentage of engagement across administrations to determine whether it is necessary to repeat the procedure more than 3 times.
- Calculate and average percentage engagement for each stimulus across administrations, and sort the data in Excel so the stimuli are sorted from higher to lower preference.

Competing Stimulus Assessment Option: Problem Behavior Data
- Input the total number of problem behaviors emitted 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 default is set at 120 s – but it can be changed).
- Calculate and average rate of problem behavior for each stimulus (including during control trials) across administrations.

Graphically depict the preference hierarchy, with the stimuli listed on the x-axis (including one labeled "no-stimulus control", and the percentage of engagement on the primary y-axis, and rate of problem behavior on the secondary y-axis. Use a double-bar bar graph.

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. However, some students may engage in high levels of engagement across all stimuli. In those cases, it may be appropriate to conduct a Paired Stimulus Preference Assessment. Of course, reinforcer

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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.

Competing Stimulus Assessment Option: Competition Rankings. Rate of problem behavior emitted while the student has access to each stimulus, relative to the no-stimulus control provides an index of "reinforcer competition". That is, stimuli that are associated with lower levels of problem behavior may produce reinforcement that competes with reinforcement maintaining problem. Determining level of preference and level of reinforcer competition for each stimulus may be critical in selecting the most appropriate stimulus for the appropriate situation.

*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.

SSE Data Sheet

Student Name: _____   **Date: _____**

Data Collector: _____   **Primary / Reliability (circle one)**

Session #: _____

Stimulus	30s		60s		90s		120s	
	Engagement	**Problem Behavior**	**Engagement**	**Problem Behavior**	**Engagement**	**Problem Behavior**	**Engagement**	**Problem Behavior**

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