Assessing Preference for Attention in a Child Diagnosed with Autism

Jodi Ogle, Cierra Micke, Kelly Paulson, Carrie Haessly, Kevin Schlichenmeyer, Matt Newquist, Amanda Verriden & Dr. Kevin Klatt

Psychology Department  University of Wisconsin-Eau Claire

Introduction
- Identifying preferred stimuli that function as reinforcers is extremely important when teaching skills to young children diagnosed with autism. Preference assessments can be conducted to identify a range of high to low preferred stimuli. To determine whether results from a preference assessment are predictive of a reinforcing stimulus, a reinforcer assessment can be conducted.
- Past preference assessment research has evaluated the use of edible and tangible items as potential reinforcers (Fisher et al., 1992; Windsor, Piche, Locke, 1994; DeLeon & Iwata, 1996). No research has been conducted to evaluate the use of physical attention (physical play) as a potential reinforcer.
- The purpose of this study was to determine if physical play serves as a reinforcer and to determine if a preference assessment is predictive of reinforcing effects.

Method

Participant & Setting
- Cade was a 4-year-old boy diagnosed with autism.

Setting & Materials
- The study was conducted in the therapy room in the child's home. Materials included a digital camera, card stock paper, forks and spoons, two timers and data sheets.

Procedure
Phase 1: Activity Identification
- Pictures of the therapist and participant engaging in physical activities were taken to be used in the preference assessment.

Phase 2: Picture Identification
- Cade was taught to identify each activity picture receptively and expressively.

Phase 3: Preference Assessment
- Researchers conducted a multiple-stimulus without replacement assessment (DeLeon & Iwata, 1996) to determine if activities were high or low preferred.

Phase 4: Reinforcer Assessment
- Researchers conducted a reinforcer assessment (Graff & Gibson, 2003) to determine if preferred items served as reinforcers according to a single-subject reversal design. The task was sorting forks and spoons.

Results
- Figures 1 and 2 depict results for picture identification. All targets achieved mastery by being selected and labeled 100% of six consecutive trials across two sessions. Results for piggy show Cade lost the ability to identify that picture and the activity was dropped from the study.
- Figures 3 and 4 display the rank for each activity during the multiple-stimulus without replacement preference assessment. Figure 3 shows the data across all 7 sessions and Figure 4 shows the collapsed rank for each activity. The hierarchy of preference shows carousal (4.85) and chase (4.71) to be the highest preferred activities and spin (2.0) and horse-ride (1.71) to be the lowest preferred activities.
- Figure 5 shows results for the reinforcer assessment. During the first trial of the baseline condition, Cade sorted during 30% of intervals. Without reinforcement his sorting quickly declined to 0% of intervals. During the treatment condition when Cade was given an activity as a reward for sorting, he sorted between 40% and 80% of intervals. Then during the reversal to baseline condition sorting stabilized at 20% of intervals.
- Table 1 displays results from a Pearson’s r bivariate correlation between the preference assessment and the reinforcer assessment. Results were not statistically significant.

Discussion
- Results from this study suggest physical attention (physical play) does serve as a reinforcer during teaching and a preference assessment may be predictive of reinforcing effects.
- Results from the reinforcer assessment showed an increase in sorting behavior from baseline (in which no reinforcement was given) to treatment (in which different physical play activities were given).
- Results from the Pearson’s r correlation show a large effect size, suggesting results from the preference assessment are likely predictive of results from the reinforcer assessment. Results likely were not statistically significant presumably due to a small sample size.
- A limitation of the current study is the small sample size. Currently researchers are replicating the study with two more participants.
- Future research would benefit from a replication of the study as well as expansion on the use of attention as a reinforcer.

We thank the Ronald E. McNair Post-baccalaureate Program, the Office of Research and Sponsored Programs at the University of Wisconsin-Eau Claire, and the parents and child that participated in this study.

<table>
<thead>
<tr>
<th>Table 1</th>
<th>Pearson’s r Correlation Between the Preference Assessment and the Reinforcer Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pearson’s r Correlation</td>
</tr>
<tr>
<td></td>
<td>.804</td>
</tr>
</tbody>
</table>

Note. Significance level set at p < .05.

Figure 1. The percentage of trials in which the participant chose the correct activity picture from an array of 3 cards.

Figure 2. The percentage of trials in which the participant correctly labeled the picture of the activity.

Figure 3. The rank ordered preference for each activity across all sessions according during the preference assessment with 6 being the most preferred item and 1 the least preferred item.

Figure 4. The rank order for each activity averaged across all sessions during the preference assessment with 6 being the highest and 1 the lowest.

Figure 5. A single-subject reversal design demonstrating the reinforcing effects of the activities.