

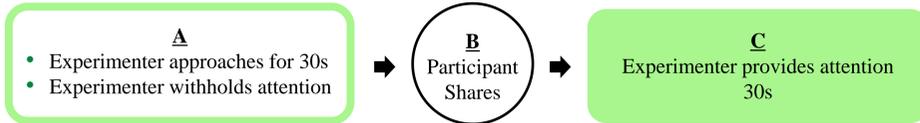
Introduction

- Significance**
 - Individuals with autism spectrum disorder (ASD) have deficits in social-communicative behavior¹. A lack of these skills may increase social isolation and negatively affect quality of life².
 - Sharing is often targeted as a meaningful, social goal for preschool-aged children as it entails reciprocal interactions that aid in fostering friendships².
- Previous Research**
 - Operant-learning techniques to increase sharing frequently include⁴:
 - Antecedent variables:
 - Peer approaches and is close to individual
 - Peer does not have access to items
 - Consequent variables:
 - Attention and access to high-preference items
 - Descriptive analysis suggests that a variety of social consequences may follow a sharing offer, including:
 - Attention from peers
 - Trading toys with a peer
 - Rejection of the share offer
 - Yet, the natural contingencies that maintain sharing behavior have yet to be evaluated under experimental control
- Purpose**
 - The objective of this study was to develop and evaluate the effectiveness of a modified functional analysis methodology to identify functional relations between sharing and environmental conditions that are commonly arranged in behavioral interventions to increase sharing.

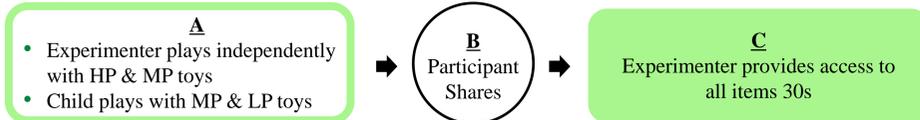
Method

- Participants, Settings, & Materials**
 - Participants: Three preschool-aged children with ASD that have a repertoire of sharing
 - Setting: Treatment room in an autism clinic
 - Materials: Toys that included multiple components (e.g., blocks) which were identified as high-preference items via MSWO assessments³.
- Functional Analysis**
 - Dependent variable
 - Sharing : a non-vocal or vocal/verbal offer to join a play-activity or giving of a toy
 - Experimental Design:
 - A multielement design with random and counterbalanced session order
 - 5-min sessions
 - Condition-correlated stimuli

Attention



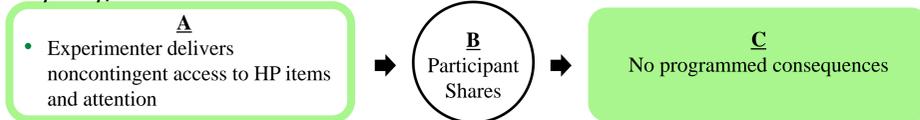
Tangible



Social Escape



Toy Play/Control



Main Finding:

A modified functional analysis methodology identified operant functions of sharing behavior for three participants with ASD.

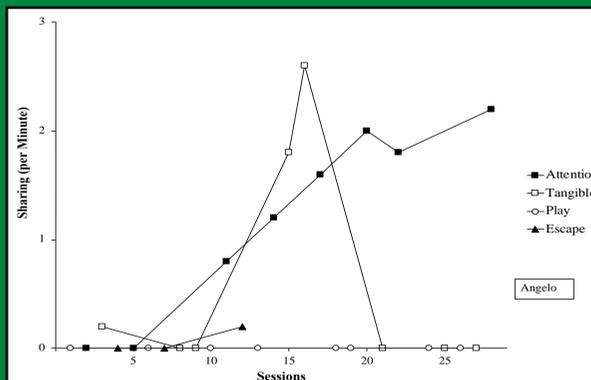


Figure 1. Rate of share offers (per minute) for Angelo within a multielement design across all conditions.

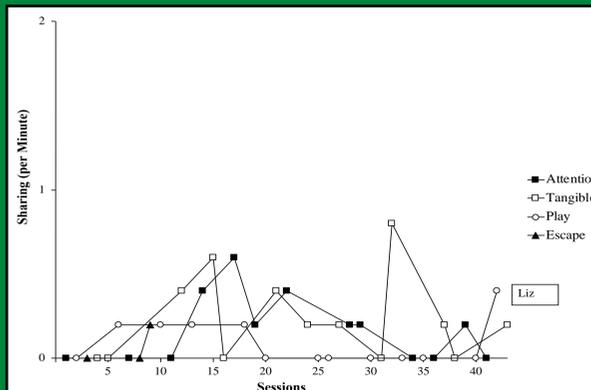


Figure 2. Rate of share offers (per minute) for Liz within a multielement design across all conditions.

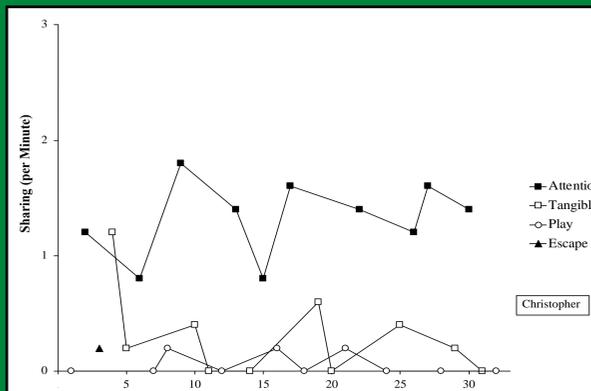


Figure 3. Rate of share offers (per minute) for Christopher within a multielement design across all conditions.

Results

Functional Analysis of Sharing

- Angelo**
 - Differentiated rates of sharing in the attention condition relative to the toyplay indicates attention
 - Early responding in the tangible condition is suggestive of an extinction burst
- Liz**
 - Differentiated rates of sharing in the attention and tangible condition relative to the toyplay indicates multiple control: access to tangible and attention
- Christopher**
 - Differentiated rates of sharing in the attention condition relative to the toyplay indicates attention
 - Rates of sharing was variable in the tangible condition. In addition Christopher began to engage in emotional responding by walking away from the experimenter and not engaging with toys. Results suggest access to tangible did not maintain sharing.

Discussion

Implications

- We identified operant functions of sharing for three participants with ASD using novel functional analysis procedures
- Implies that the procedures were effective in evaluating the social variables that maintain sharing
- The functional analysis methodology is appropriate to evaluating social behaviors, such as sharing
- Suggests the antecedent and consequent variables frequently included in behavioral interventions are appropriate to teach sharing
- Since attention was the function for all three participants (at least, in part), this study suggests social attention is a readily available and maintaining consequence for sharing within the natural environment²
- Thus, for sharing to sustain overtime by contacting natural contingencies of reinforcement, practitioners should carefully target social attention as a maintaining consequence

Limitations and Future Research

- The utility of the current procedures as an assessment to inform or evaluate intervention requires further research.
- May have unique utility as a post-intervention assessment to ensure that the identified maintaining contingencies are congruent with the goals of the instructional program and that results match the contingencies readily available in the natural environment.
- Evaluation of additional social contingencies not included in the current evaluation.
 - E.g., Evaluation of sharing as a prosocial behavior that is intended to benefit others.

References

- Banda, D. R., & Hart, S. L. (2010). Increasing peer-to-peer social skills through direct instruction of two elementary school girls with autism. *Journal of Research in Special Educational Needs*, 10(2), 124-132.
- Bryant, L. E., & Budd, K. S. (1984). Teaching behaviorally handicapped preschool children to share. *Journal of Applied Behavior Analysis*, 17(1), 45-56.
- Carr, J. E., Nicolson, A. C., & Higbee, T. S. (2000). Evaluation of a brief multiple-stimulus preference assessment in a naturalistic context. *Journal of Applied Behavior Analysis* 33(3), 353-357.
- Lane, J. D., & Ledford, J. R. (2016). A review of interventions designed to increase sharing behaviors in children with social delays or deficits. *Journal of Behavioral Education*, 25(1).
- Marzullo-Kerth, D., Reeve, S. A., Reeve, K. F., & Townsend, D. B. (2011). Using multiple-exemplar training to teach a generalized repertoire of sharing to children with autism. *Journal of Applied Behavior Analysis*, 44(2), 279-294.
- Rogers-Warren, A. K., & Baer, D. M. (1976). Correspondence between saying and doing: Teaching children to share and praise. *Journal of Applied Behavior Analysis*, 9(3), 335-354.
- Warren, S. F., Rogers-Warren, A., & Baer, D. M. (1976). The Role of Offer Rates in Controlling Sharing by Young Children. *Journal of Applied Behavior Analysis*, 9(4), 491-497.