### Introduction

Background
- Identifying the characteristics of children with ASD who are likely to respond to specific interventions to improve social communication and spoken language has been an important approach in early intervention research. (Sherr & Schreibman, 2005; Gabriels, et al., 2001).
- This can be done by examining moderators.
- Two potential moderators of interest are object interest and interfering behaviors.
- Object interest is important in the development of early communication because much social communication involves the child coordinating his or her attention to a communication partner and an object. Object interest has been shown to be a moderator of treatment (e.g. Yoder & Stone, 2006).
- Interfering behaviors (e.g., repetitive behaviors, escape behaviors, and aggressive behaviors) are general predictors of language and communication development (e.g. Bopp, et al., 2009; Dominick, et al., 2009; Donnicker, et al., 2001; Lam, et al., 2008) and are potential moderators of a behaviorally-based intervention because the presence of these behaviors may affect a child’s active engagement in intervention.

#### Research Question
Does pretest object interest and frequency of interfering behaviors (repetitive, escape, and aggressive) moderate the effect of group assignment (treatment or control) on children’s communication outcomes?

### Methods

#### Measures

<table>
<thead>
<tr>
<th>Time point</th>
<th>Variable type</th>
<th>Construct</th>
<th>Assessment</th>
<th>Reliability (ICC or g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest</td>
<td>Moderators</td>
<td>Treatment/Control group</td>
<td>Randomly assigned</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td>Object interest</td>
<td>Object interest</td>
<td>Structured play assessment</td>
<td>85.34%</td>
</tr>
<tr>
<td></td>
<td>Interfering behaviors</td>
<td>Interfering behaviors</td>
<td>20-minute naturalistic language sample (2nd sample)</td>
<td>95.28%</td>
</tr>
<tr>
<td></td>
<td>Repetitive behaviors</td>
<td>Repetitive behaviors</td>
<td>62.99%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Escape behaviors</td>
<td>Escape behaviors</td>
<td>96.25%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Aggressive behaviors</td>
<td>Aggressive behaviors</td>
<td>69.40%</td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>variables</td>
<td>Age</td>
<td>Parent Report</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td>Developmental level</td>
<td>Developmental level</td>
<td>Mullen visual reception subscale</td>
<td>n/a</td>
</tr>
<tr>
<td>Posttest</td>
<td>Dependent variable</td>
<td>Initiating joint attention (IJA)</td>
<td>Early social communication scales (ESCS)</td>
<td>89.95%</td>
</tr>
</tbody>
</table>

#### Analysis
- All assessments were completed and coded by individuals blind to group assignment.
- Multiple regression analyses were used to identify predictors of communication and language outcomes to examine the two putative moderators on communication outcomes. A build-up approach was used for this exploratory analysis.
- Moderators were examined using interaction terms of the proposed independent variable and group assignment.

### Results

### Conclusions
- Object interest significantly moderated the effect of group assignment on the frequency of initiating joint attention, such that children in the intervention group who began treatment with lower object interest made greater gains in intervention.
- Implication: This finding is consistent with the literature that suggests that children with lower object interest may benefit from play-based naturalistic interventions.
- Escape behaviors significantly moderated the effect of group assignment on the frequency of initiating joint attention, such that children in the intervention group who began treatment with fewer escape behaviors made greater gains in intervention.
- Implication: The frequency of escape-maintained behaviors likely effects the dosage of treatment the child received, thereby effecting outcomes.

### Limitations
- High variability was observed both between children and within children. Further analyses should examine variables accounting for this variability.
- The lack of significant findings on SCU, a more distal measure of communication, may suggest that the effects of the putative moderators do not influence more distal outcomes of the intervention.

### References