Infant Siblings of Children Diagnosed with Autism Spectrum Disorder Have Higher Perseveration

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Children with ASD have difficulty with social cues, repetitive behaviors, and restricted interests. Many of these signs show up after a diagnosis and many children remain undiagnosed until school-age. We want to demonstrate the utility of a screening tool to identify infants at risk for ASD. This tool could enable earlier identification and treatment for those who have unknown risk for ASD.

**Problem**
- Children with ASD have difficulty with social cues, repetitive behaviors, and restricted interests.
- Many of these signs show up after a diagnosis and many children remain undiagnosed until school-age.
- We want to demonstrate the utility of a screening tool to identify infants at risk for ASD.
- This tool could enable earlier identification and treatment for those who have unknown risk for ASD.

**Method**
- 31 infants with a sibling with ASD (11 boys) and 31 age- and sex-matched controls (no ASD relatives).
- Ages ranging from 79 to 232 days old.
- Infants completed a novelty preference task.
- Used independent samples t-test to determine if ASD sibling status associated with higher perseveration rates.

**Results**
- Perseveration rates were higher for infants with siblings with ASD.
- Infants with an older sibling with ASD exhibited perseveration rates of 48%, while those without relatives with ASD showed rates of 25%.
- Infants who show higher rates of perseveration might be more likely to develop ASD symptoms early on in childhood.
- This is helpful because early treatments for ASD have been developed. Our task could be developed into a screening tool for infants with unknown risk.

**Group Statistics**

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<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
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<td>0.15</td>
<td>0.03</td>
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<td>has DD sib Persev</td>
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<td>0.48</td>
<td>0.21</td>
<td>0.04</td>
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**Independent Samples Test**

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<th></th>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
<th>Mean Difference</th>
<th>Std. Error Difference</th>
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<tbody>
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<td>60</td>
<td>0.000</td>
<td>-0.23</td>
<td>0.05</td>
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</table>

**Application**
- Our task could be used to screen any infant (regardless of a sibling with a developmental disorder) to determine increased perseveration behavior.
- Understanding the role that perseveration has in attentional development will allow for earlier treatment for those at a higher risk for attentional difficulties.
- Future longitudinal studies will track possible correlations between infant perseveration rates and ASD symptoms.