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Longitudinal Predictors of Functioning in Children with ASD

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Correlations

The acquisition and use of expressive language (EL) in children with ASD has been correlated with longitudinal improvements and optimal outcomes in functioning (Gillberg, 1991).

The study of EL, particularly its proximal and distal influences, help to identify factors related to the trajectory of overall functioning for individuals diagnosed with ASD.

**Objectives**

To examine whether maternal education and number of intervention hours are correlated and/or predictive of a range of developmental outcomes in a longitudinal cohort of children diagnosed with ASD.

**Participants**

35 participants with ASD were derived from a longitudinal cohort of children evaluated at 3 points in time as part of a federally funded project looking at the developmental processes, trajectories and predictors of outcome in a longitudinal cohort. All participants were seen at least three points: Age 2 (toddler), visit 1 (V1: Age 4 pre-school), visit 2 (V2: Age 8 school age), visit 3 (V3).

The EL trajectory for those having either avg. EL or below avg. EL across visits, amongst children diagnosed with ASD.

**Discriminant Function Analyses were used to determine which principal components were predictive of trajectory cohort membership.**

**Multiple Linear Stepwise Regressions** were used to determine which principal components were predictive of EL outcomes at preschool and school age.

### Results Using PC1, PC2, & PC3

<table>
<thead>
<tr>
<th>Variable</th>
<th>ΔR²</th>
<th>B</th>
<th>p</th>
<th>ΔR²</th>
<th>B</th>
<th>p</th>
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<td></td>
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<tr>
<td>PC1</td>
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<td>36.06</td>
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<tr>
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<td>18.47</td>
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<tr>
<td>PC3</td>
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<td>2.49</td>
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<td>13.76</td>
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</table>

### Principal Component Factor Analyses

Principal Component Factor Analyses derived three unique principal components at toddlerhood: performance on child outcome measures (PC1), family and community resources (PC2), and ASD symptomology (PC3). (see Table 2).

<table>
<thead>
<tr>
<th>Variable</th>
<th>ΔR²</th>
<th>B</th>
<th>p</th>
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</thead>
<tbody>
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<td>Step 2</td>
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<tr>
<td>PC1</td>
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<tr>
<td>PC2</td>
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</table>

### Correlations

Correlations show that maternal education is related to many preschool and school age outcomes, similarly paternal education was associated with a toddler language comprehension outcome. These findings emphasize the role of caregivers in creating an enriching early language environment.

Intervention and ABA both showed negative correlations on performance measures, suggesting that children with more severe ASD symptomology received more hours of intervention and ABA.

Results demonstrate that early performance on child outcome measures, as well as family and community resources, predict longitudinal EL outcomes.

### References


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