Relations Between Social Communication and Atypical Behavior in Young Children with ASD

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### Purpose
To examine developmental and behavioral profiles of young children identified as having autism spectrum disorder (ASD). Relations between social and communication deficits and atypical internalizing and externalizing behaviors were also explored.

### Seacoast Child Development Clinic (SCDC)
- A community clinic that provided consultative services for children with neurodevelopmental disabilities and their families including diagnostic evaluations for ASD.
- Children were evaluated by an interdisciplinary team of professionals including a developmental pediatrician, occupational therapist, speech-language pathologist, and others as needed.

### Procedures
- A retrospective, non-experimental design was used with data extracted from the SCDC medical records by a trained research assistant.
- Procedures were approved by the institution’s Internal Review Board for Protection of Human Subjects.
- Data included demographics (age, gender, race, socioeconomic status), scores from Vineland Adaptive Behavior Scales-II, the Child Behavior Checklist and from the ADOS and ADOS-2.
- Using SPSS ver24, descriptive statistics, and correlation analyses were computed to describe behavioral and developmental characteristics, and to examine relations between types of communication deficits and behavioral patterns.

### Participants
Data from 123 children with ASD seen at the SCDC, ages 20 to 71 months were used. Of the children, 98 were male and 25 were female. 96% of the population was white with most cases being from middle class families located in the Northeastern United States. Of those administered the ADOS, 84% met criteria for autism and 13% met criteria for ASD. The majority of the children demonstrated moderate to severe ASD. Of those administered the ADOS-2, the mean severity score was 7, with scores ranging from 5-7 interpreted as moderate.

### Results
- Adaptive behavior was significantly below average for 77% of the children based on the Total VABS score. Mean area standard scores ranged from 75.5 (communication) to 83.2 (motor).
- 46% of the children scored in the atypical behavior range based on their total CBCL score. 41% had internalizing behavior concerns while 37% had externalizing behavior concerns.
- Mild but significant relations were noted between some social communication skills and atypical internalizing and externalizing behaviors.

<table>
<thead>
<tr>
<th>Spearman’s rho Correlations</th>
<th>VABS_Comm_ss Total Communication Score</th>
<th>VABS_Soc_ss Social Communication Score</th>
<th>VABS_Comm_el_ss Expressive Language Score</th>
<th>VABS_Comm_rl_ss Receptive Language Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>CBCL-P Aggressions</td>
<td>0.02</td>
<td>-0.263</td>
<td>0.166</td>
<td>-0.191</td>
</tr>
<tr>
<td>CBCL-P Internalizing Behaviors</td>
<td>0.024</td>
<td>-0.319</td>
<td>0.129</td>
<td>-0.137</td>
</tr>
<tr>
<td>CBCL-P Externalizing Behaviors</td>
<td>-0.01</td>
<td>-0.285</td>
<td>0.139</td>
<td>-0.226</td>
</tr>
<tr>
<td>CBCL-P Total Score</td>
<td>-0.042</td>
<td>-0.343</td>
<td>0.093</td>
<td>-0.235</td>
</tr>
</tbody>
</table>

significant at p< 0.01 level; significant at p< 0.05

### Discussion
- Children with ASD often have atypical internalizing and externalizing behaviors and problems with adaptive behavior.
- The social aspects of communication have a stronger impact on presence or absence of atypical behavior than other aspects of communication.
- Social communication interventions may be effective for reducing undesirable behaviors in children with ASD.

### Clinical Implications and Limitations
1. Programs aimed at improving social communication skills may decrease atypical behavior in young children with ASD.
2. Many children with ASD would benefit from interventions aimed at addressing internalizing, externalizing and adaptive behavior.
3. The sample was not representative of the US, with respect to race, geographic location, and SES.
4. While the VABS-II And CBCL-P are standardized measures with adequate psychometrics, parent report measures inevitably include some bias and subjectivity.

### References available via handout.