Variation in autism and ADHD symptomatology reveals differential uses of discourse markers

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Background

- Some autistic individuals use "um," a discourse marker (DM), less often than non-autistic individuals in monologic contexts BUT not in interactive contexts.\textsuperscript{1,2,3}
- Suggesting mixed impacts of autistic youths' social communication challenges on DM use
- Scrutiny of other DMs, such as "like," has also revealed comparable rates.\textsuperscript{4}
- "Like" is particularly noteworthy – it serves a multitude of functions: a) focusing device ("Like, we went to Disney"); b) marker of looseness ("I got like a hundred presents"); c) quotative marker ("He was like 'that was scary'"); and d) indicator of reformulation ("I want a new PlayStation, like, the newest one").
- However, little attention has been paid to other DMs aside from "um" and "like" in autism.
- Other DMs, such as "but," also serve more than one function;\textsuperscript{5} a) marker of simple contrast ("My brother is older than me, but my sister is older than both of us"); and b) violation-of-expectations (\textsuperscript{V-O-E}; "My brother is older than me, but he acts like a baby").
- Furthermore, despite high co-occurrence,\textsuperscript{6} few studies have looked at DM use of individuals with co-occurring symptomatology of autism and ADHD (AuDHD).

OBJECTIVE: To investigate a) more specific uses of DMs, and b) across varying autism and ADHD symptomatology as measured via the ADOS-\textsuperscript{2} and Conners-\textsuperscript{3}, respectively.

Methods

- Participants had diagnoses of autism and/or ADHD, which were confirmed by research team (Table 1). Language samples were collected using a virtual reality paradigm where children viewed a classroom as they answered questions about themselves (e.g., "What is a normal day like for you?")
- DMs were identified via utterance-by-utterance coding, and qualitative analyses were conducted to determine the exact function of a DM in a particular utterance.
- Analyses were centered around clusters derived from k-means cluster analysis (based on ADOS-2 and Conners-3 scores) (Figure 1 & Table 2).

Table 1. Demographic information of the sample, M(SD)

<table>
<thead>
<tr>
<th></th>
<th>Autistic (n=18)</th>
<th>ADHD (n=22)</th>
<th>AuDHD (n=30)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>11.3 (1.8)</td>
<td>11.6 (2.4)</td>
<td>11.9 (2.3)</td>
</tr>
<tr>
<td>ADOS-2</td>
<td>9.3 (3.3)</td>
<td>4.6 (3.9)</td>
<td>10.8 (3.2)</td>
</tr>
<tr>
<td>Conners-3</td>
<td>60.3 (6.9)</td>
<td>72.9 (13.1)</td>
<td>80.2 (6.8)</td>
</tr>
<tr>
<td>(\eta^2)</td>
<td>0.013</td>
<td>0.393</td>
<td>0.434</td>
</tr>
<tr>
<td>Post Hoc</td>
<td>---</td>
<td>AuDHD &gt; ADHD</td>
<td></td>
</tr>
</tbody>
</table>

Discussion

- Findings revealed that having co-occurring symptomatology of ADHD neither buttressed nor further goaded challenges with DM use among autistic youth, suggesting that social communication challenges do NOT universally affect DM use (Figures 2a & 3a). Whereas youths with greater autism symptomatology used DMs in a quotative manner, possibly reflecting scripted phraseology, and/or to mark simple contrasts, youths with greater ADHD symptomatology used DMs for reformulation purposes and/or marking a V-O-E (Figures 2b & 3b), reflecting possible condition-specific behavioral patterns.

Figures 2a & b. "Like" use varies by autism symptomatology and function

Figures 3a & b. "But" use varies by ADHD symptomatology and function

Table 2. Number of children from original diagnostic groups into the four clusters (% of entire sample)

<table>
<thead>
<tr>
<th>Cluster</th>
<th>ADOS (n=20)</th>
<th>Conners-3 (n=30)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cluster 1</td>
<td>5 (25%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Cluster 2</td>
<td>13 (65%)</td>
<td>2 (6.7%)</td>
</tr>
<tr>
<td>Cluster 3</td>
<td>0 (0%)</td>
<td>19 (63.3%)</td>
</tr>
<tr>
<td>Cluster 4</td>
<td>0 (0%)</td>
<td>9 (30%)</td>
</tr>
</tbody>
</table>

\textsuperscript{a} All clusters except Cluster 3 have equal split. Cluster 3 has equal split and/or reformulation purposes and/or marking a possible condition of meaning. Children's acquisition of "but," Cognitive Psychology, 147, 101937

References & Acknowledgments

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