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Title: Characterizing Behavioral Outburst in Autism Spectrum Disorder

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Background: Behavioral outbursts are the leading cause of psychiatric hospitalizations for autistic individuals and have a significant impact on quality of life (Siegel & Gabriels, 2014; Estes et al., 2009). Notably, behavioral outbursts are more prevalent for individuals with autism spectrum disorder (ASD) as compared to typically developing individuals and in populations with other disorders and disabilities (Bradley, Summers, Wood, & Bryson, 2004; Matson, Wilkins, & Macken, 2008; McCarthy et al., 2010). Thus, understanding the underlying factors that contribute to behavioral outbursts in ASD is a priority for research. While there is evidence to suggest that higher anxiety directly leads to more behavioral outbursts in adults (Dudley, 2019), there has been little research examining this pathway in adolescents. The present study sought to investigate the relationship between anxiety and behavioral outbursts for teens and how behavioral outbursts might be impacted by or interfere with anxiety treatment relative to cognitive functioning.

Methods: Participants included 47 adolescents ranging from 12 to 18 in age ($M=15.64$, $SD=1.44$) who were enrolled in one of two studies examining the efficacy of the Facing Your Fears intervention with autistic adolescents with (Blakeley-Smith et al., 2021) and without (Reaven et al., 2012) a co-occurring intellectual disability (ID). The sample included participants with IQs ranging from 40 to 128 ($M=82.37$, $SD=25.54$). We examined parent-reported behavioral outburst symptoms using the Developmental Behaviour Checklist in the non-ID group and the Aberrant Behavior Checklist in the ID group. Specifically, items examining behaviors related to self-injury, aggression towards others, screaming/yelling inappropriately, tantrums, whining/irritability, and destructive behaviors were compiled.

Results: In line with existing literature (Mctiernan et al., 2011; Murphy et al., 2009), IQ was significantly negatively correlated with frequency of behavioral outbursts, whereby lower IQ was associated with higher frequency of behavioral outbursts ($r=-.35$, $p=.02$). The ID group exhibited more behavior outbursts overall ($t=.49$, $p=.002$). Specifically, the ID group was reported to show more frequent aggression towards others ($t=1.64$, $p=.01$), screaming/yelling ($t=1.82$, $p=.08$), and destructive behavior ($t=2.12$, $p=.04$). There were no significant differences in self-injury, tantrums, or whining/irritability. No significant relationships were detected between behavioral outbursts and anxiety pre- ($r=.07$, $p=.64$) or post-treatment ($r=.06$, $p=.72$). Similarly, there was no significant relationship between the change in behavioral outbursts scores from pre- to post- and changes in anxiety scores from pre- to post- ($r=-.21$, $p=.23$). There was no significant difference between average pre- ($M=3.63$) and post-treatment ($M=3.01$) behavioral outburst scores ($t=1.56$, $p=.12$).

Discussion: The present study demonstrates that behavioral outbursts present differently at different levels of cognitive functioning. Additionally, the relationship between anxiety and behavioral outbursts may manifest differently for adolescents than adults. Findings suggest that anxiety intervention alone is not sufficient to target behavioral outbursts. Consequently, interdisciplinary collaboration (e.g., psychology, speech, OT) is important for assessing the underlying function of the behavior and tailoring behavioral supports to the individual. Future directions include examining behavioral outbursts related to factors such as adaptive skills, quality of life outcomes, parental stress, and autism symptom severity.