“I’m not worried – I’m mad!”: Aggression and Anxiety in Children with ASD
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ABSTRACT
This study examined the relationship between social anxiety and aggression in children with Autism Spectrum Disorders (ASD) and a matched control group of non-ASD peers. The relationship between social anxiety, specifically for humiliation/rejection fears, and aggression was stronger in ASD. Implications are discussed.

INTRODUCTION
Social deficits are associated with externalizing behavior problems and anxiety in ASD. Individuals with ASD experience greater social anxiety than the general population. There are high correlations between anxiety and externalizing disorders in non-ASD children. However, the relationship between anxiety, specifically social anxiety, and aggression has not been explored in ASD children. Social difficulties, awareness of being different, and past negative peer experiences may lead to fears of humiliation or rejection by peers. Children with ASD may have more difficulty coping with anxiety in socially appropriate ways and agress. Study Aims:
(1) Compare anxiety and aggression in children with ASD and a group of non-ASD peers
(2) Examine the relationship between anxiety and aggression
(3) Explore whether social anxiety differentially predicts aggression between groups?

METHODS
Participants
• ASD group: 20 children (18 males) ages 7 - 15 (M = 11.75 ± 2.94), mean IQ = 93.75 (SD = 12.94)
• Control group: 20 non-ASD children (18 males) ages 7 - 15 (M = 11.75 ± 2.65), mean IQ score = 95.05 (SD = 2.65)
• ASD and control group matched on age, gender, and IQ

Measures
• Multidimensional Anxiety Scale for Children (MASC): T score ≥ 65 is indicative of clinical anxiety on the Social Anxiety scale (SA-C) and Humiliation/Rejection (H/R-C) subscale.
• Child Behavior Checklist (CBCL): T scores of 65 - 67 indicative of borderline problems, and T scores over 67 are clinically significant on the Anxious/Depressed (A/D-M) scale and aggression (Agg-M) scale as reported by the mother.

RESULTS
(1) Do children with ASD exhibit problems with anxiety and aggression similar to non-ASD peers?

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Mean ASD</th>
<th>Mean Control</th>
<th>F-value</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>A/D-M</td>
<td>65.95 ± 11.91</td>
<td>64.75 ± 12.18</td>
<td>F_{1,18} = 0.11, p = .76</td>
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<tr>
<td>Agg-M</td>
<td>67.20 ± 13.36</td>
<td>63.00 ± 12.51</td>
<td>F_{1,18} = 1.05, p = .31</td>
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<tr>
<td>SA-C</td>
<td>51.42 ± 10.74</td>
<td>48.85 ± 10.62</td>
<td>F_{1,18} = 0.57, p = .46</td>
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<tr>
<td>HR-C</td>
<td>53.63 ± 12.52</td>
<td>49.70 ± 8.91</td>
<td>F_{1,18} = 1.29, p = .26</td>
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</tbody>
</table>

There were no group differences in the above anxiety and aggression scales.

(2) Is there a relationship between parent reported anxiety and aggression?
• A/D-M scores were significantly correlated with Agg-M (r = .72, p < 0.001) in the control group, but not in the ASD group (r = .36, p = .12).

(3) Does social anxiety differentially predict aggression between groups?
• The linear and nonlinear effects of social anxiety on aggression were explored via multiple regression within each group.
• There were linear (β = -.692, p < 0.01) and quadratic (β = .492, p < 0.05) effects of SA-C on Agg-M in the ASD group. Linear (β = -.348, p = .22) and quadratic (β = .323, p = .26) effects of SA-C on Agg-M in the control group were nonsignificant.
• There were linear (β = -.692, p < 0.01) and quadratic (β = .492, p < 0.05) effects of H/R-C on Agg-M in the ASD group. Linear (β = -.302, p = .28) or quadratic (β = .242, p = .39) effects of H/R-C on Agg-M in the control group were nonsignificant.
• In the ASD group, SA-C explained 44% of the variance (F = 6.29, p < 0.05) in Agg-M. In the second model, H/R-C explained 43.7% of the variance (F = 6.205, p < 0.05) in Agg-M.

CONCLUSIONS
• Children with ASD experience higher levels of anxiety and aggression commensurate with a clinical sample of non-ASD children.
• Social anxiety, specifically H/R fears, is more predictive of aggression in ASD than in non-ASD peers.
• It appears there is an optimal level of social anxiety and fear of humiliation/rejection among children with ASD. Too little or too much may contribute to problems with aggression.
• Anxiety may express itself uniquely in children with ASD.
• Future research should investigate this finding with comorbid social phobia in ASD.
• Limitations include a small clinical sample and ASD clinical diagnoses not confirmed by ADOS or ADI-R.