Autism Spectrum Disorder symptoms may mediate the association between RSA reactivity and emotion dysregulation, while contributing to anxiety symptoms.

**METHODS**

Participants’ RSA was recorded during resting state (movie-watching) and video gameplay.

- For short intervals, the controls were inverted/unresponsive to eliciting frustration (negative modulation).
- RSA is an index of parasympathetic activity.
- RSA reactivity calculated as: modulated gameplay RSA - resting state RSA
- The SCQ, a 41-item parent-report questionnaire, was used to characterize ASD symptoms (Rutter et al. 2003).

**PARTICIPANT CHARACTERISTICS**

<table>
<thead>
<tr>
<th>Group</th>
<th>Sex (m/f)</th>
<th>Age (yo)</th>
<th>Full Scale IQ</th>
<th>SCQ</th>
<th>EDI</th>
<th>RSA (log10(m²))</th>
<th>SCARED</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASD</td>
<td>26</td>
<td>20.6</td>
<td>11.6±2.06</td>
<td>109.4±11.88</td>
<td>15.8±7.41</td>
<td>20.5±15.38</td>
<td>-0.1±0.51</td>
</tr>
<tr>
<td>TD</td>
<td>32</td>
<td>17.15</td>
<td>9.9±1.73</td>
<td>116.6±11.42</td>
<td>2.7±2.89</td>
<td>5.9±6.45</td>
<td>-0.5±0.60</td>
</tr>
</tbody>
</table>

**RESULTS**

- Both models displayed good fit indices.
- ASD symptoms mediated the association between RSA reactivity and emotion dysregulation (Figure 1).
- Emotion dysregulation associated with anxiety symptoms (Figure 1 and 2).
- RSA reactivity did not mediate the association between ASD symptoms and emotion dysregulation (Figure 2).

**CONCLUSIONS**

- Less parasympathetic withdrawal during frustrating gameplay associated with greater ASD symptoms (Figure 1).
- Greater ASD symptoms associated with greater emotion regulation difficulties (Figure 1).
- These relationships mediated the association between parasympathetic reactivity and emotion regulation difficulties (Figure 1).
- Greater emotion regulation difficulties associated with greater anxiety symptoms (Figure 1 and 2).

**REFERENCES**

- Bilal Syed, Azadbeh Kushi, PhD Holland Bloorview Kids Rehabilitation Hospital UNIVERSITY OF TORONTO Institute of Biomedical Engineering UNIVERSITY OF TORONTO