Well-being and sleep in Autism Spectrum Disorders across the lifespan
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Background
- Autism Spectrum Disorder (ASD), although a developmental disorder, is a lifelong condition.
- Research has tended to focus on childhood, adolescence and early adulthood.
- Few studies have examined ASD in later-life.
- Low mood and poor sleep are commonly reported in both ASD and in ageing.
- Understanding ageing with ASD is necessary to plan and provide support in a growing ageing population.
- This study examines sleep quality and wellbeing across the lifespan, in individuals with and without ASD.

Hypotheses
- Age and ASD diagnosis will have an affect on:
  - Presentation of ASD symptoms
  - Sleep disturbance
  - Wellbeing score

Methods:
- Participants: 77 participants, aged 19-65.
- 37 individuals diagnosed with ASD as adults, recruited from the Autism Diagnostic Research Centre, Southampton. One individual was removed as an outlier.
- 40 age and gender matched controls were recruited from the community with a maximum of ±5 years age difference.

Table 1: Group demographics, Mean (standard deviation)

<table>
<thead>
<tr>
<th></th>
<th>ASD (n=36)</th>
<th>TDP (n=40)</th>
<th>Group differences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>36.08 (10.27)</td>
<td>35.78 (12.03)</td>
<td>$F=.014$, $p=.905$</td>
</tr>
<tr>
<td>Sex (m,f)</td>
<td>27, 9</td>
<td>28, 12</td>
<td>$X^2=.31$, $p=.58$</td>
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</tbody>
</table>

Self-report Measures:
- ASD Symptom measure: The Autism Quotient (AQ)
- Wellbeing measures: Warwick-Edinburgh Mental Wellbeing Scale (WEMWBS) and the World Health Organisation Quality of Life Scale (WHOQoL).
- Sleep measure: The Pittsburg Sleep Quality Index (PSQI)
- Demographic information was measured to ensure age and gender matching.

Results: Group differences

Figure 1: Group differences on Self-report Measures

Table 2: Correlations with Age by Experimental Group

<table>
<thead>
<tr>
<th></th>
<th>ASD</th>
<th>TDP</th>
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<tbody>
<tr>
<td>ASD symptoms AQ</td>
<td>r=.266, p=.116</td>
<td>r=.032, p=.844</td>
</tr>
<tr>
<td>Wellbeing WHOQoL</td>
<td>r=-.378, p=.028*</td>
<td>r=.261, p=.103</td>
</tr>
<tr>
<td>WEMWBS</td>
<td>r=-.490, p=.002**</td>
<td>r=.093, p=.568</td>
</tr>
<tr>
<td>Sleep PSQI</td>
<td>r=-.274, p=.167</td>
<td>r=-.069, p=.801</td>
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- Both wellbeing scales correlated significantly with age in the ASD group, but not in the TDP group.
- The correlations between the two groups were significantly different for WHOQOL (Fisher’s $r$ to $z$ transformation $z=-2.79$, $p=.005$) and WEMWBS (Fisher’s $r$ to $z$ transformation $z=-2.65$, $p=.008$).
- This indicates a different pattern of age-related associations with well-being in ASD compared to TDP.
- No other significant correlations with age were observed

Figure 2: Correlations with Age by Experimental Group

Conclusion
- The ASD group reported significantly lower wellbeing than the TDP group.
- No significant group differences in sleep quality were observed.
- The ASD group demonstrated a significant decline in wellbeing with age.
- In contrast, the TDP group increased in well-being with age.
- No significant correlations were observed between age and sleep in either group.
- Individuals with ASD continue to be at risk for low well-being across the lifespan.
- It may be important to monitoring well-being in ASD across the lifespan, to allow provision for interventions and support.