Sex Similarities and Differences in Autism Presentation in Adulthood


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BACKGROUND

• The scientific inquiry regarding the clinical autism phenotype across males and females reveals mixed findings. While many studies suggest there are more similarities than differences, some report sex distinctiveness in autism presentation that may lead to a male bias in the ASD prevalence (Grove et al., 2017; Halladay et al., 2015; Lai et al., 2017; Werling & Geschwind, 2013).

• Some studies indicate that females with ASD display more severe social and communication difficulties, but fewer restricted and repetitive behaviors than males with ASD (Van Wijngaarden-Cremers et al., 2014).

• In addition to inconsistent results, research to date has focused on comparison of males and females with ASD. This is problematic given that many aspects of social functioning in typically developing individuals are known to vary as a function of sex.

• There is also limited research that examines self-perception of autistic adults, which may provide important information regarding sex differences and similarities in autism presentation.

Objective:

• This study aimed to provide further clarification of sex-differential cognitive and behavioral presentations to inform diagnostic efforts and clinical practice.

METHODS

Characterization:

• Cognitive ability was measured with the Wechsler Abbreviated Scale of Intelligence – Second Edition (WASI-II).

• Self-perception of social functioning was assessed using the Social Responsiveness Scale – Second Edition (SRS-2), Adult Self-Report Form and the Autism Quotient Form (AQ).

• Clinician-rated level of social functioning was measured using the Autism Diagnostic Observation Schedule, Second Edition (ADOS-2), Module 4 administered by research reliable, expert clinicians.

Procedure:

• Data for this study was collected from 2015 to 2017 as part of a larger study conducted at the Yale Child Study Center.

• Statistical analyses were conducted using SPSS statistical software (ver. 24).

Funding Source: NIMH R01 MH100173-02S1 (McPartland), NIMH R01 MH107426 (McPartland, Stiritzi)

RESULTS

• Males and females in both groups showed similar cognitive profiles, with the exception of significantly lower verbal reasoning abilities in the ASD group (p<0.04).

• The AQ total scores were significantly higher in the ASD group (p<0.03). Furthermore, there was a significant interaction between Sex and Diagnosis (p<0.04), reflecting that sex differences were bigger in the ASD group. A subsequent t-test showed that ASD females reported more autism related traits than did ASD males [t(41)=2.30, p<0.026].

• The SRS-2 Total t-score and all subscale t-scores were significantly higher in the ASD group compared to TD group [t(40)=27.06, p<0.01]. Additionally, in the ADOS-2 Adult module, females with ASD reported more Social Cognition [t(40)=2.69, p<0.01], Social Communication [t(40)=2.73, p<0.009], Social Motivation [t(40)=3.28, p<0.002], and Restricted Interests and Repetitive Behaviors [t(40)=3.11, p<0.003]. In the TD group, an opposite pattern was found with males, who reported significantly weaker skills than females with regard to Social Awareness [t(40)=4.26, p<0.001] and Social Communication [t(40)=2.30, p<0.026].

• The ADOS-2 results revealed significant sex differences in the ASD group, but not the TD group. Specifically, ASD males scored significantly higher than ASD females in the Communication domain [t(43)=3.31, p<0.001]. There were no significant sex differences in Social Interaction or Stereotyped Behaviors and Restricted Interests Total.

CONCLUSIONS

• While women and men with ASD show many similarities, there also appears to be distinct differences in their clinical presentations.

• Females with ASD reported higher levels of social-communicative difficulties (SRS-2) along with significantly higher levels of autism traits (AQ) than males with ASD, despite receiving significantly lower ratings of communicative impairment on the ADOS-2. This may suggest that females with ASD have greater insight into their social weaknesses. Consequently, this increased insight may affect both the way they present themselves and the manner in which they are perceived by others.

FUTURE DIRECTIONS

• Further analyses are needed with larger data sets to investigate sex differences in ASD presentation.

• Exploration of sex-specific factors at an item level, rather than in mean or total scores, may offer valuable insight.

• Qualitative research and self-perception of individuals with ASD provide additional perspective that may lead to a better understanding of sex similarities and differences in ASD presentation.

References