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## Self-reported empathy in adults women with Autism Spectrum Disorders

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## Objective

There is limited research on ASD in females. Although empathy has been examined thoroughly in autism, it has not been investigated in women with this condition and gender differences have been neglected. Self-reported empathy in adult women with ASD was examined to raise awareness for female-specific autism and male biased ASD diagnostics.

## Methods

The literature was searched in PsychINFO, PubMed and Web of Knowledge for studies that investigated self-reported empathy among adult women with ASD. Only six studies comparing women to men were identified, all studies used the Empathy Quotient (EQ; Baron-Cohen et al., 2004).

## Self-reported empathy

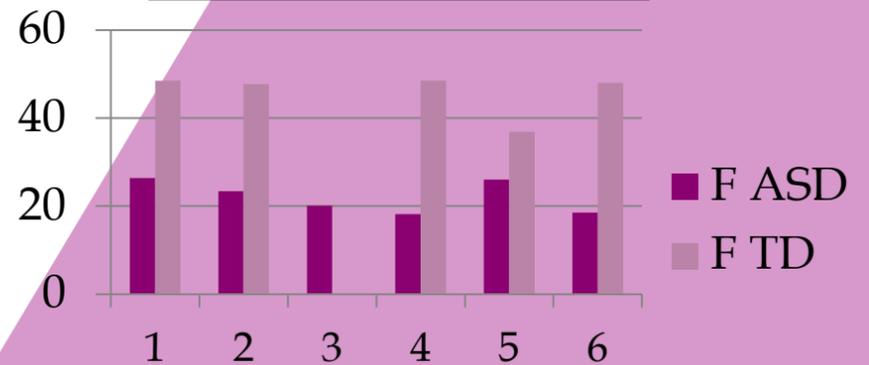
All studies found women with an ASD to report lower levels of empathy than typically developed (TD) women, and TD men, but similar levels to men with ASD. Women show a hypermasculinisation in empathy. This is particularly surprising considering the large gender difference in empathy in the general population. The difference in empathy levels between women with and without ASD was larger (Cohen's  $d = 1.9$ ) than that between men with and without ASD (Cohen's  $d = 1.4$ ), indicating that women are more affected by ASD than men.

### Included studies

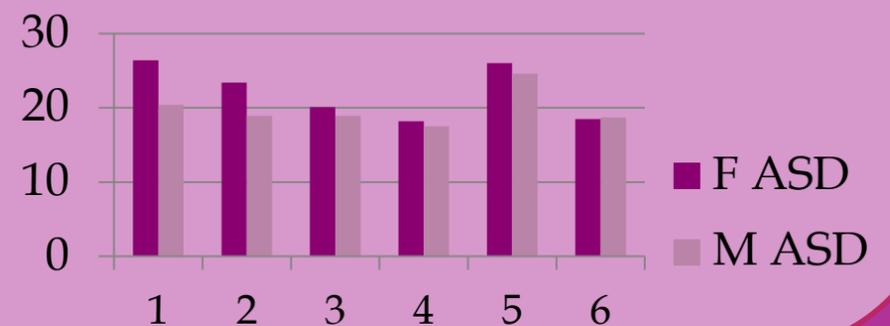
1=Baron-Cohen et al., PloS One (2014); 2=Goldenfeld et al., Clin Neur Psych (2005); 3=Lai et al., PloS One (2011); 4=Sucksmith et al., Neuropsychologia (2013); 5=Wakabayashi et al., JADD (2007); 6=Wheelwright et al., Brain Res (2006)

## Results

Self-reported empathy in women (F) with and without ASD in six studies



Self-reported empathy in women (F) and men (M) with ASD in six studies



A limitation of the studies included in this review is that the current diagnostic criteria for ASD are based on predominantly male data and oriented towards male-specific behaviour. They thus fail to integrate gender specific characteristics. Hence, women diagnosed with ASD are likely to be at the male end of the continuum. The suggested hypermasculinisation of women on the spectrum, as evident from this review, may therefore be exaggerated due to a selection bias of women with male autistic traits.

## Conclusions

- The self-reported empathic ability of women diagnosed with ASD resembles that of their male counterparts most closely; they show a hypermasculinisation in empathy.
- This hypermasculination in empathy may be exaggerated, because the diagnosis is based on male-based criteria.
- Women are more affected by ASD than men in terms of empathy.
- Female-specific autism research is crucial to address the issue of male-biased ASD diagnostics.