

# Autism Spectrum Conditions (ASC) females and males in Poland – similarities and differences in clinical picture and coexisting psychopathology

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following results came from the project entitled: *Asperger Syndrome and high-functioning autism in females - sex differences in clinical picture and co-existing psychopathology*

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## INTRODUCTION

### SEX SIMILARITIES AND DIFFERENCES IN ASC

#### Similarities and differences:

- ASC females appeared to be at greater risk for internalizing psychopathology: developing anxiety, depression, including risk for affective disorders, psychiatric hospitalization, and suicidal ideation, and presenting more abnormalities in sensory profile than ASC males.
- ASC males appeared to be at greater risk for coexisting ADHD or disruptive, impulse-control disorders.
- ASC females showed fewer behavioral autistic features during interpersonal interaction (ADOS and ADOS-2 algorithms: scores in communication) but higher in self-reported questionnaires and the clinical interview.
- ASC females and ASC males appeared to be similar on stereotyped behaviors and restricted interests.

#### Possible reasons:

- Being female confers protection against autism traits because of sex differences in neuroendocrine function for example higher levels of oxytocin, which encourage nurturance and affiliation (e.g.; Carter 2007; Solomon et al. 2012).
- High level of fetal testosterone in males may predispose boys to have "extreme male brains" characterized by phenotypes involving elevated "systematizing" (Baron-Cohen et al. 2005).
- ASC symptoms may not be diagnosed because of milder clinical symptom presentation in ASC females (Constatino & Todd, 2003).
- Greater effort to camouflage, greater self-awareness in ASC females, and/or measurement issues (already reported in e.g.; Lai et al., 2011). Current measurements are created mostly based on ASC male phenotype.

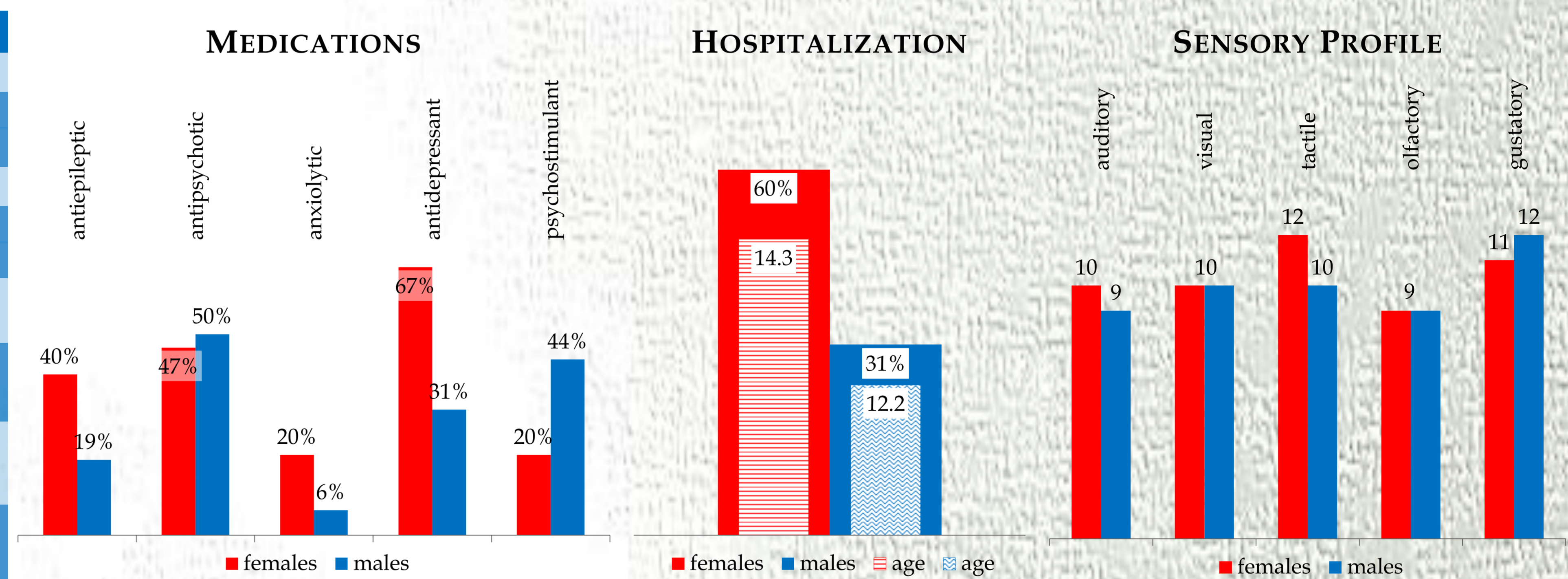
## STUDY DESIGN

**PARTICIPANTS:** 31 Polish subjects were evaluated - 15 females (mean age: 16 years) and 16 males (mean age: 14,2 years) with clinical diagnosis of autism or Asperger Syndrome. All participants had IQ average or above.

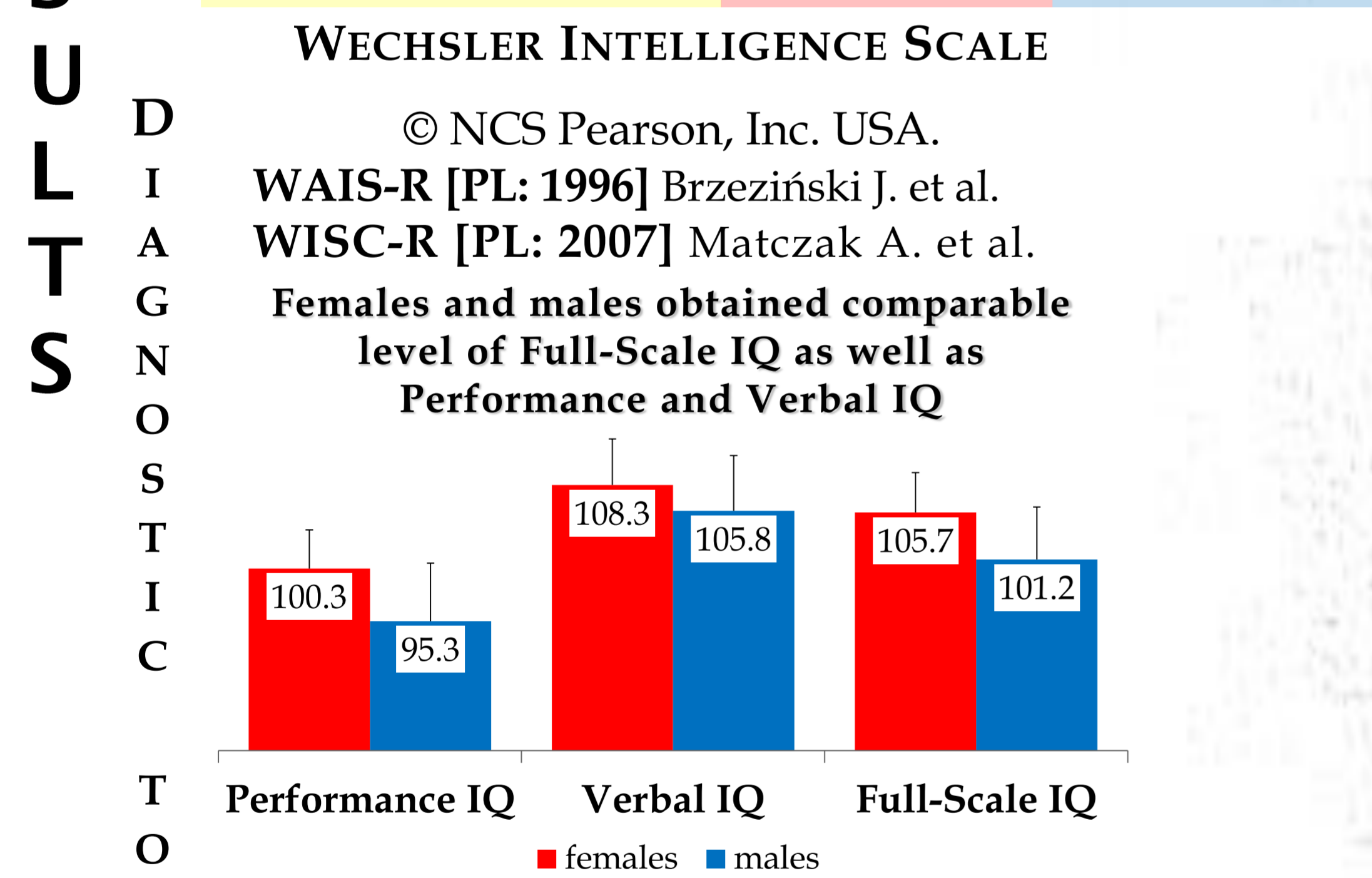
Participants completed all measures during several visits. The research was approved by the Bioethical Commission of Medical University of Gdańsk.

**STRUCTURED MEDICAL INTERVIEW WAS CONDUCTED WITH EVERY PARTICIPANT AND THEIR PARENTS.**

	females	males
<b>CLINICAL</b>		
pregnancy complicated	+ (40%)	+ (50%)
labor term complicated	73%	69%
1 <sup>st</sup> ASC signs	9.4 ± 1.392 *	5.9 ± 0.860
ASC signs parent noticed by...	57%	75%
professional	43%	25%
<b>DATA</b>		
age of receiving official ASC diagnosis	14.9 ± 0.643 ***	9.5 ± 1.197
<b>RESULTS</b>		
<b>coexisting psychopathology</b>	depression and anxiety (40%) ADHD (20%) Sensory Processing Disorder (27%)	ADHD (47%) disruptive, impulse-control disorder (33%) ADHD (40%)
sleep problems in early childhood	80%	44%



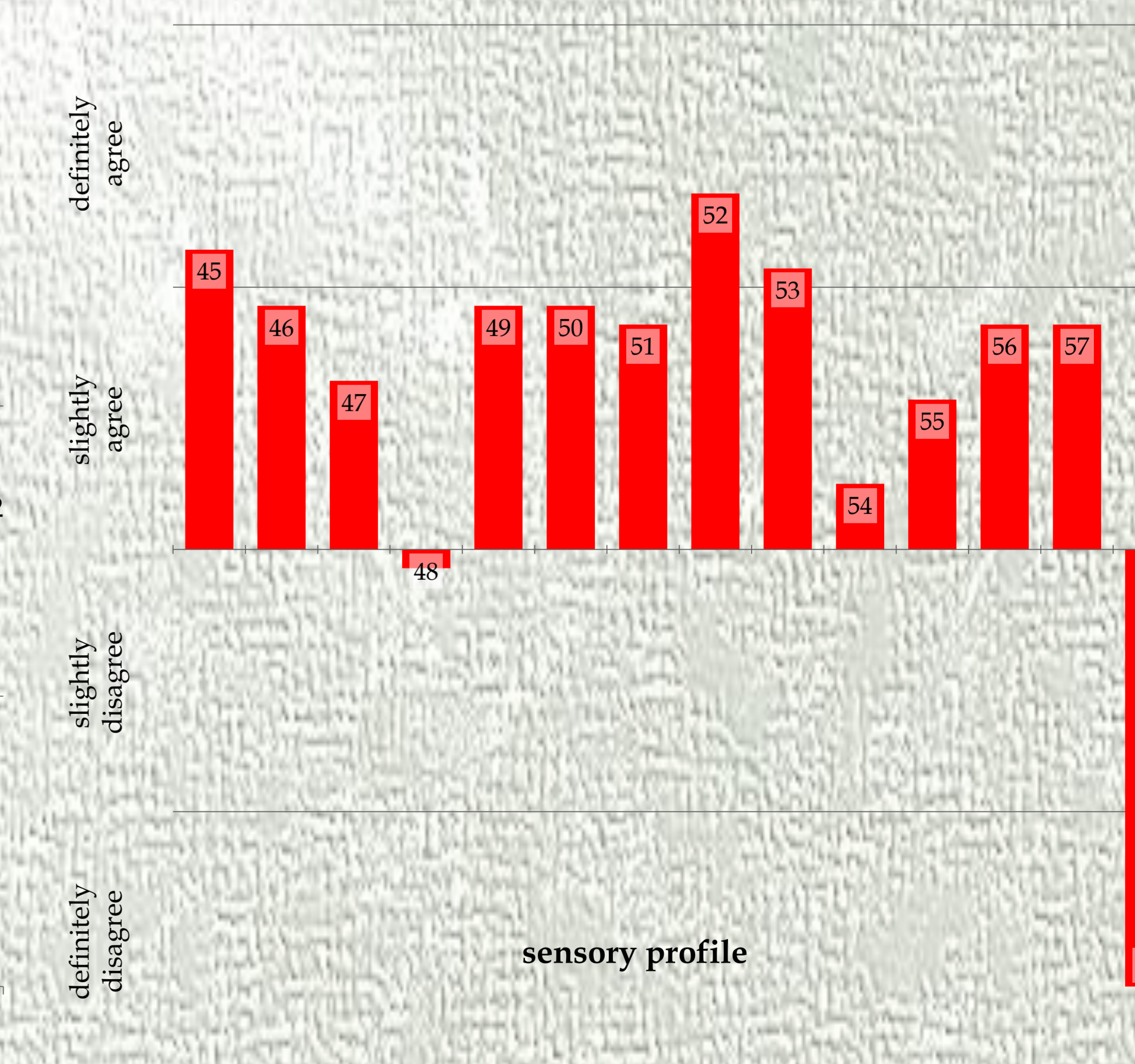
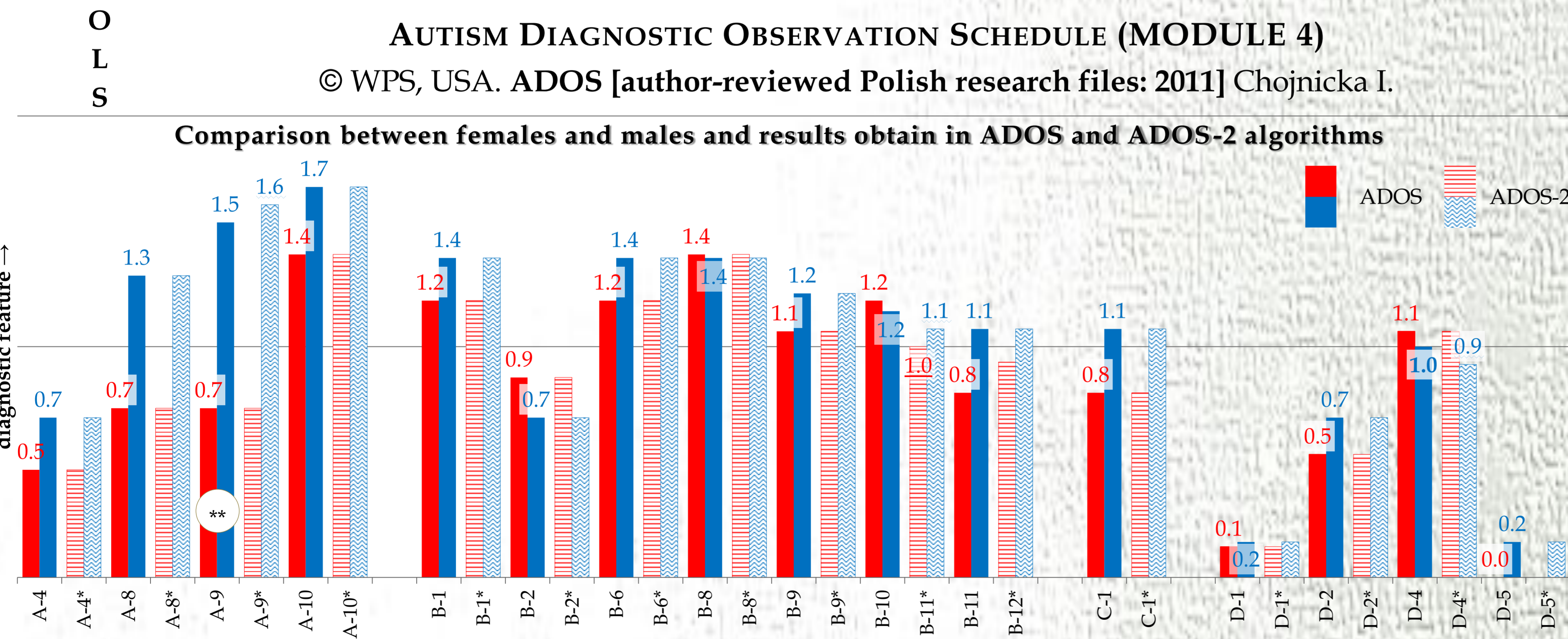
ALL DIAGNOSTIC TOOLS WERE USED UNDER AGREEMENT WITH PUBLISHERS



**AUTISM SPECTRUM QUOTIENT**  
© Autism Research Centre, UK  
AQ ADULT [PL: 2010]  
AQ ADOLESCENT [PL: 2010]  
Pisula E., Łucka I., Rynkiewicz A.

**AUSTRALIAN SCALE FOR ASPERGER'S SYNDROME**  
© A. Attwood, Australia  
ASAS [PL: 2010]  
Pisula E., Łucka I., Rynkiewicz A.

**GIRLS' QUESTIONNAIRE FOR ASC**  
**GQ-ASC authors:**  
Rynkiewicz A. (Spectrum ASC-Med., POLAND)  
Attwood T., Garnett M. (Minds & Hearts Clinic, AUSTRALIA)  
**GQ-ASC adaptation:**  
[PL: 2011] Rynkiewicz A. (Spectrum ASC-Med.)  
[DK: 2013] Callesen K. (Psychologisk Ressource Center)  
[IT: 2013] Devescovi R. (Burlo Garofalo Hospital)  
[DE: 2013] Harth A. (Systemisch Aufsuchende Autismus)



## CONCLUSION

ASC females presented clinically much later (three and a half years) and were diagnosed five and a half years later than ASC males.

ASC females were also more often hospitalized than ASC males. Furthermore ASC females got another prior diagnosis, mostly depression and/or anxiety unlike ASC males who were prior diagnosed with ADHD or disruptive, impulse-control disorders.

ASC females and ASC males obtain comparable results on ADOS and ADOS-2 algorithms with exception of gestures and the communication overall score where ASC females presented less or no autistic than ASC males. Thus ASC females might risk receiving non-autism score in ADOS and ADOS-2 classification. Clinical data suggests that ASC females present more abnormalities in sensory profile than ASC males.