

Examining Race- and Sex-Based Biases in Autism Assessments of Youth 5-19 years

Daniel Nguyen, Emma Simard, Sophia Waddell, Chenhao Li, Austin Wyman, Elle Fox, Caitlin C Clements

Department of Psychology, University of Notre Dame

brainlab.nd.edu

Background

How is Autism
Diagnosed?

- Autism diagnoses are based on behavior, both reported and *clinically observed*.
- For youth with fluent language, best practice evaluations include the ADOS, developmental history, questionnaires and interviews with youth and others (caregivers, teachers), and cognitive testing (IQ).
- There is no blood- or brain-based test for autism.

What is the ADOS?

- ADOS=Autism Diagnostic Observation Schedule
- Considered 'gold-standard' autism assessment
 - 45-60 min. of semi-structured conversation & play administered by trained clinician
 - The clinician scores the child on 29 autistic traits ranging from eye contact to social insight
 - Scoring involves some level of subjectivity

Our Study

- Race- and sex-based biases may affect diagnosis as:
 - Black/African American and Asian American autistic children face significant disparities in age of diagnosis
 - Autism presentation differs between sexes
- We examined racial and sex-based differences in the ADOS Module 3 scoring to understand potential clinician bias during autism assessment.

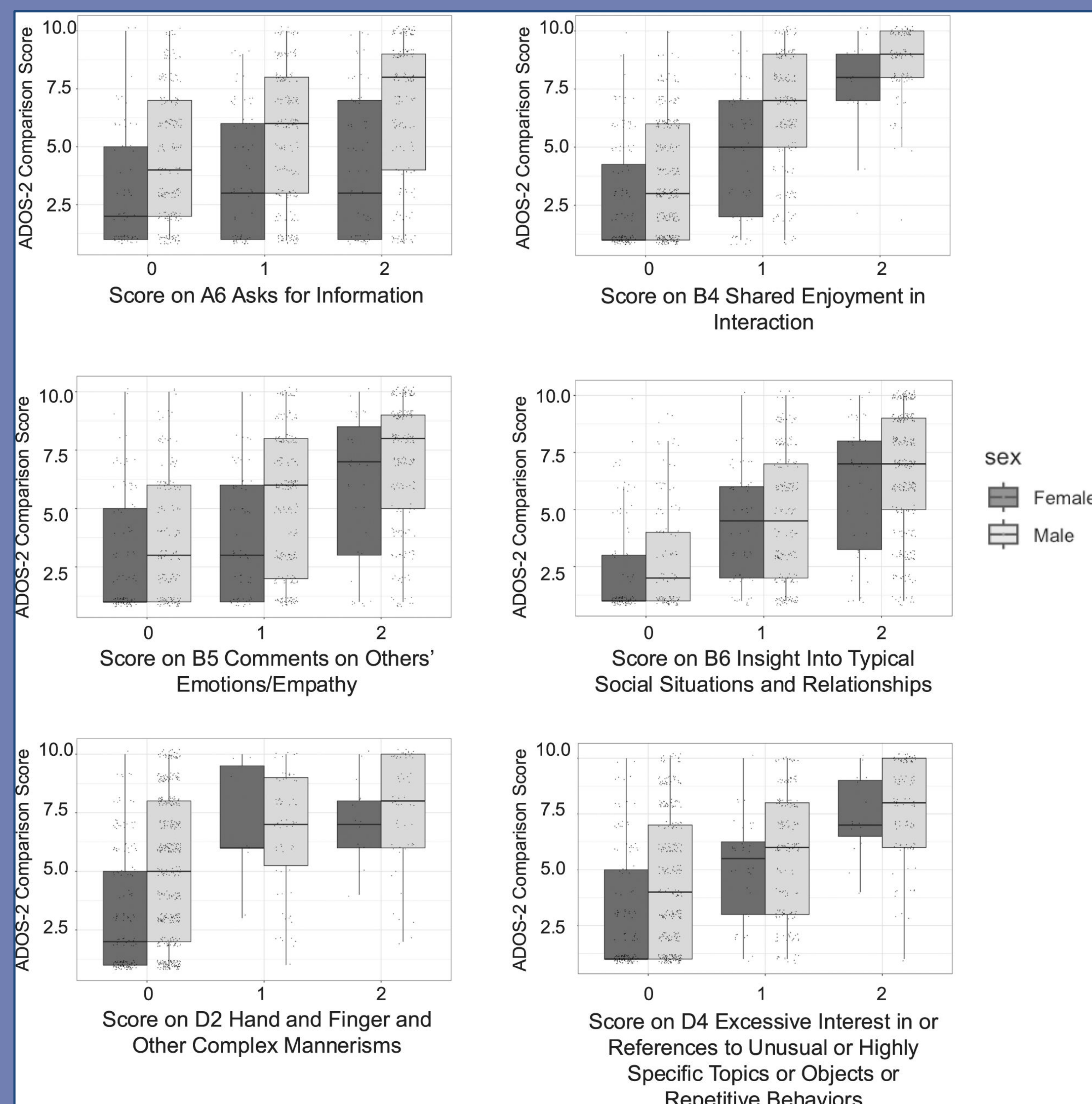
Methods

- Data were analyzed from 14 research studies conducted at the Center for Autism Research at the Children's Hospital of Philadelphia, 2009-2024.
- Youth aged 5-19 years with fluent language.

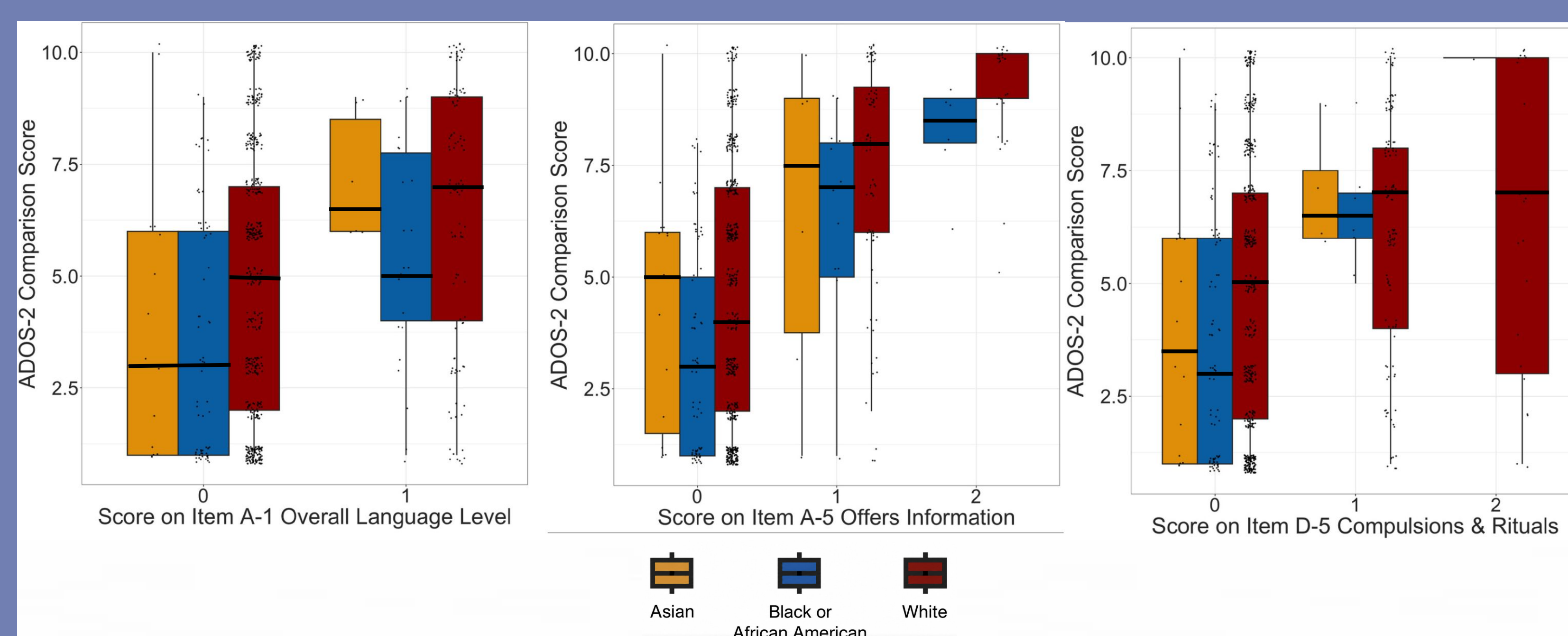
Female	199
Male	614
Total	813

Asian	21
Black/African American	87
White	618
Total	735

Results



Compared to males with similar autistic trait levels, females were rated as having **stronger social communication skills**, as well as exhibiting **more repetitive behaviors and special interests**.



On 3 of 28 items, Black/African American and Asian children were usually **more likely to be rated as showing autistic behaviors and lower language** than White children with similar autism levels.

The overall effects were small (< 1 point), and impact on diagnostic classification was negligible.

Discussion

- Race- and sex-based differences in autism assessment reinforce need for culturally-responsive and gender-informed practices.
- Impact of bias on total ADOS scores was small and unlikely to alter clinical classification.
- While overall ADOS classification was robust, clinician biases may influence other aspects of diagnostic evaluation.
- Awareness of how bias operates on these specific traits may improve equitable diagnosis and intervention access for Black/African American, Asian, and female youth.

3 ADOS Items Identified with Racial Bias

Offers
Information

Language
Level

Compulsions
and/or
Rituals

6 ADOS Items Identified with Sex Bias

Asks for
Information

Comments
on Others'
Emotions & Empathy

Hand and Finger
and Other Complex
Mannerisms

Insight into
Typical Social
Situations and
Relationships

Shared
Enjoyment
in Interaction

Excessive Interest in
Unusual Highly
Specific Topics, Objects,
or Repetitive Behaviors

Acknowledgements

We thank the families who participated in this research, the clinicians who administered and scored the ADOS, the investigators who contributed data, the staff who supported community outreach to promote diversity in research participation, and the BRAIN Lab Community Advisory Board members for early feedback.

Want to Learn More? Scan to read the papers

Race Bias in
ADOS Scoring

Sex Bias in
ADOS Scoring

