"They’re both she!": Pronoun Comprehension in Children with ASD
Rebecca L. Nappa, Joshua Harthorne & Jesse Snedeker
Harvard University

Abstract
Two experiments explore how processing of pronouns differs between children with an autism spectrum disorder (ASD) and typically-developing (TD) children. A contrast is found between ASD and TD pronoun resolution when discourse focus is indicated only by order of mention, however, memory load (a longer period of ambiguity) doesn’t seem to affect either group.

Research Plan
Investigate pronoun resolution in high-functioning, extremely verbal ASD children, manipulating gender ambiguity and discourse status of characters

Subjects
18 ASD children, ages 5;7 – 10;2
- Mean age = 7;10 (SD = 1.4), mean TROG score = 97.8 (SD = 13.3), mean PPVT score = 113 (SD = 21)
18 language-matched controls, ages 5;2 – 10;4
- Mean age = 8;2 (SD = 1.7), mean TROG score = 97.6 (SD = 13.3), mean PPVT score = 112.7 (SD = 20.1)

Experiment 1 – Can children with ASD keep track of who is in discourse focus?

Short Discourse
Emily and Hannah are playing in the park. Emily comes to the park every day. She wants to go on the swings. Now click on her.

Long Discourse
Emily and Hannah are playing in the park. Emily comes to the park every day. It’s a bright, sunny day today. The park is really beautiful. She wants to go on the swings. Now click on her.

Experiment 2 – Can ASD children use gender and/or order-of-mention to resolve pronouns?

Gender Ambiguous Pronouns
Emily is playing in the park with Hannah. She wants to go on the swings. Now click on her.

Gender Unambiguous Pronouns
Emily is playing in the park with Hannah. She scored five goals. Now click on him/her.

Results
Offline Responses

- Both ASD and TD use discourse focus and gender to resolve pronouns
- No difference between groups
- ASD show reduced use of order-of-mention bias

Eyetracking

- No significant differences were seen between groups in Experiment 1

Conclusions
1) ASD children can use discourse focus and gender in pronoun resolution
2) Possible divergences between online and offline performance
3) Use of order-of-mention impaired in actions
   - Implicit knowledge, but fragile representations?
   - Interference from task instructions?

References