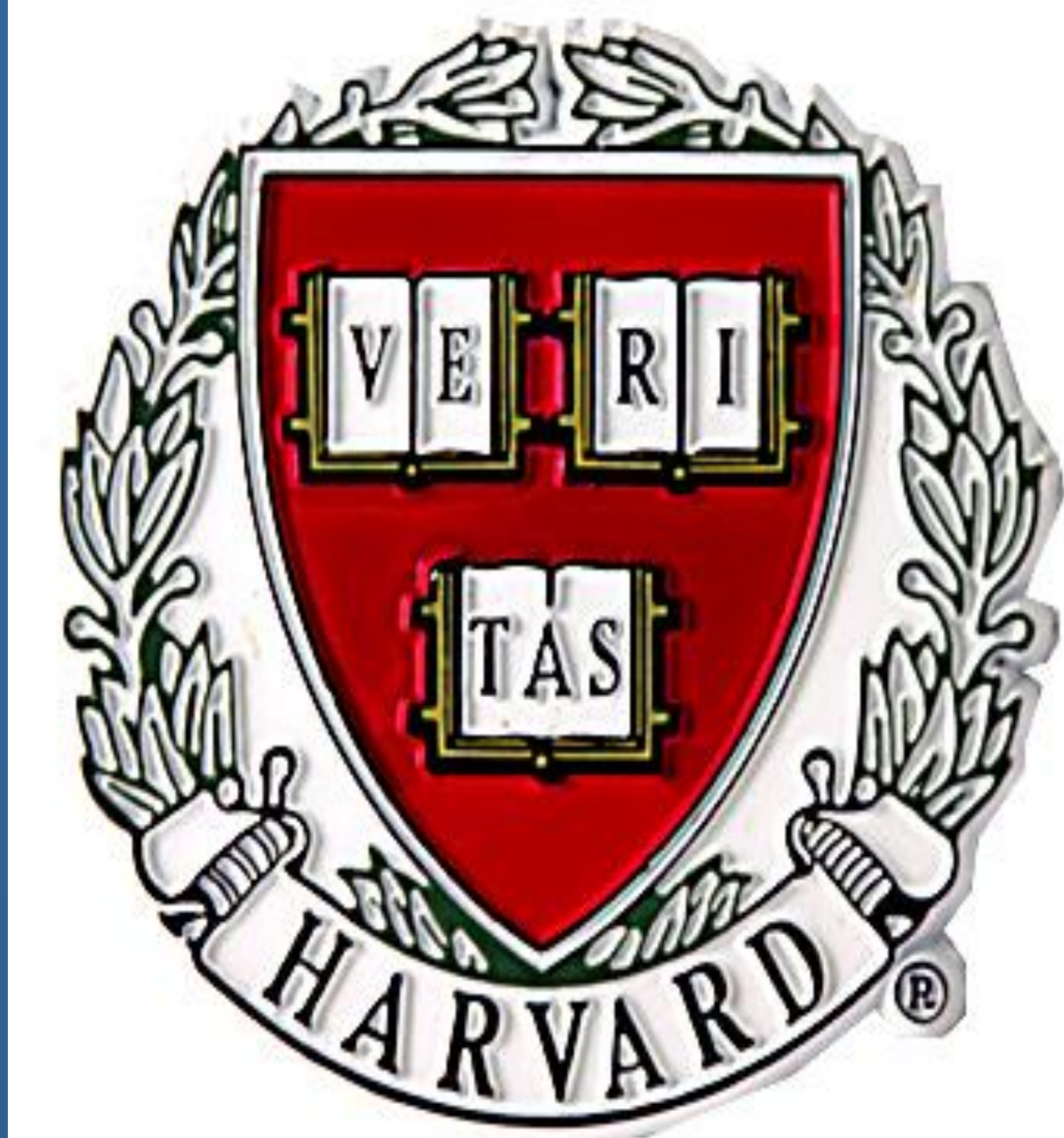


“They’re both she!”: Pronoun Comprehension in Children with ASD

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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 Question

Does pronoun resolution differ in ASD and TD groups?

Background

Pragmatics in ASD

- ASD is clinically characterized by pragmatic deficits (even absent problems with structural language) (Kjelgaard & Tager-Flusberg, 2001)
- These are notoriously difficult to pin down experimentally

- Variable performance on experimental pragmatic tasks

By exploring pragmatic breakdown in ASD, we can isolate the point where pragmatic processing starts to fail

Using ASD to Understand Pragmatics

- Pragmatics is diverse, and primarily defined by what it isn't (semantics or syntax)

- Highly verbal ASD children offer insight into which pragmatic processes primarily depend on structural language (e.g. scalar implicature) (Pijnacker et al., 2009) and which involve more (Happé, 1993)

By exploring pragmatic breakdown in ASD, we can begin to carve up the pragmatic space

Pronoun Resolution

- A fundamental part of establishing/maintaining discourse focus

Pronouns refer to **focused characters** in the discourse

“Emily went outside to play with Hannah. She is going to play on the swings.”

Pronoun Use in ASD

- Although showing globally similar patterns, young ASD children are less likely to use a pronoun when there is a larger gap since last use of full NP (Arnold, Bennetto & Diehl, 2009)
- A less robust discourse representation?

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 = 20.1)

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.

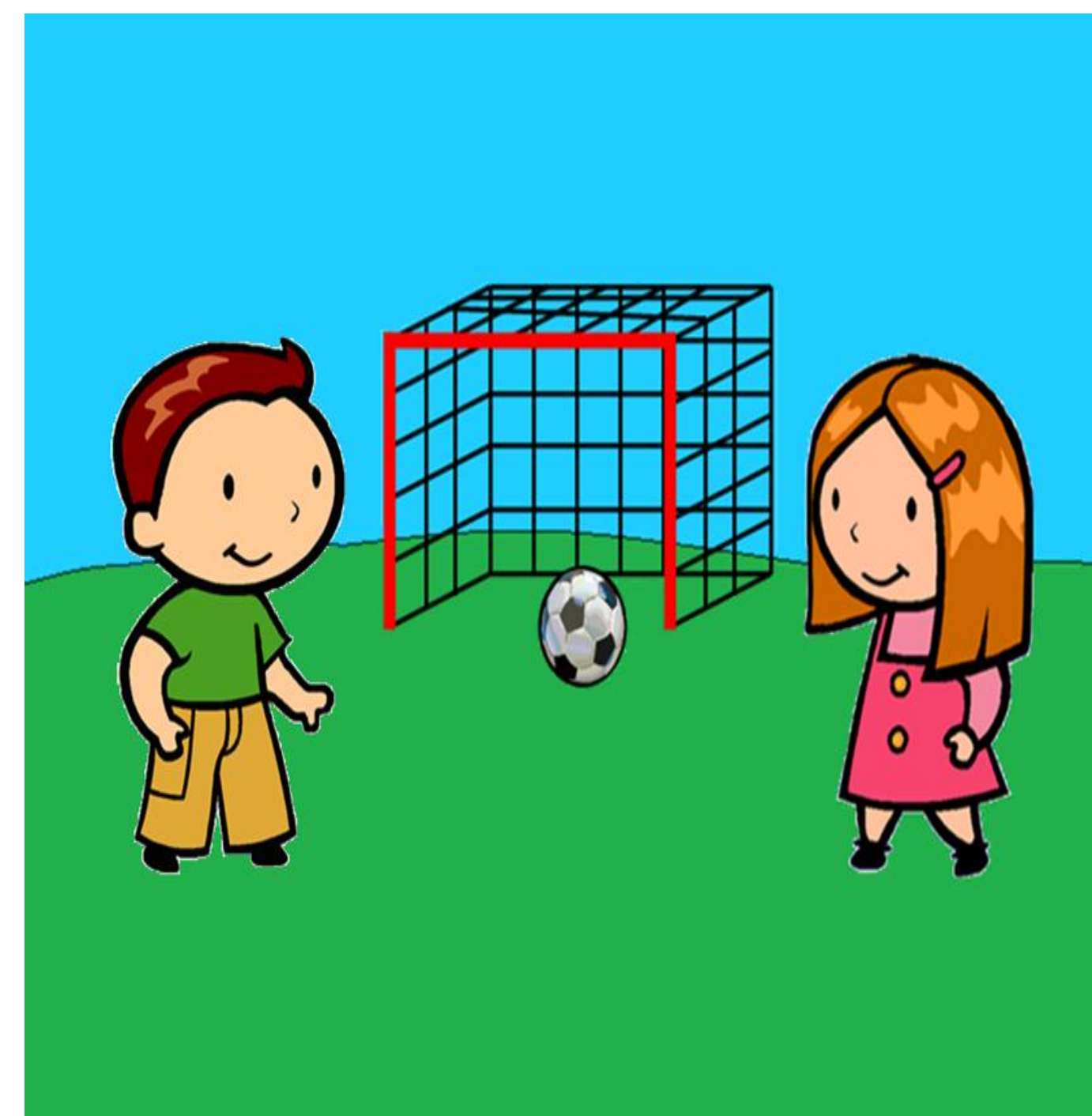
Experiment 2 – Can ASD children use gender and/or order-of-mention to resolve pronouns?

Gender Ambiguous Pronouns

Gender Unambiguous Pronouns



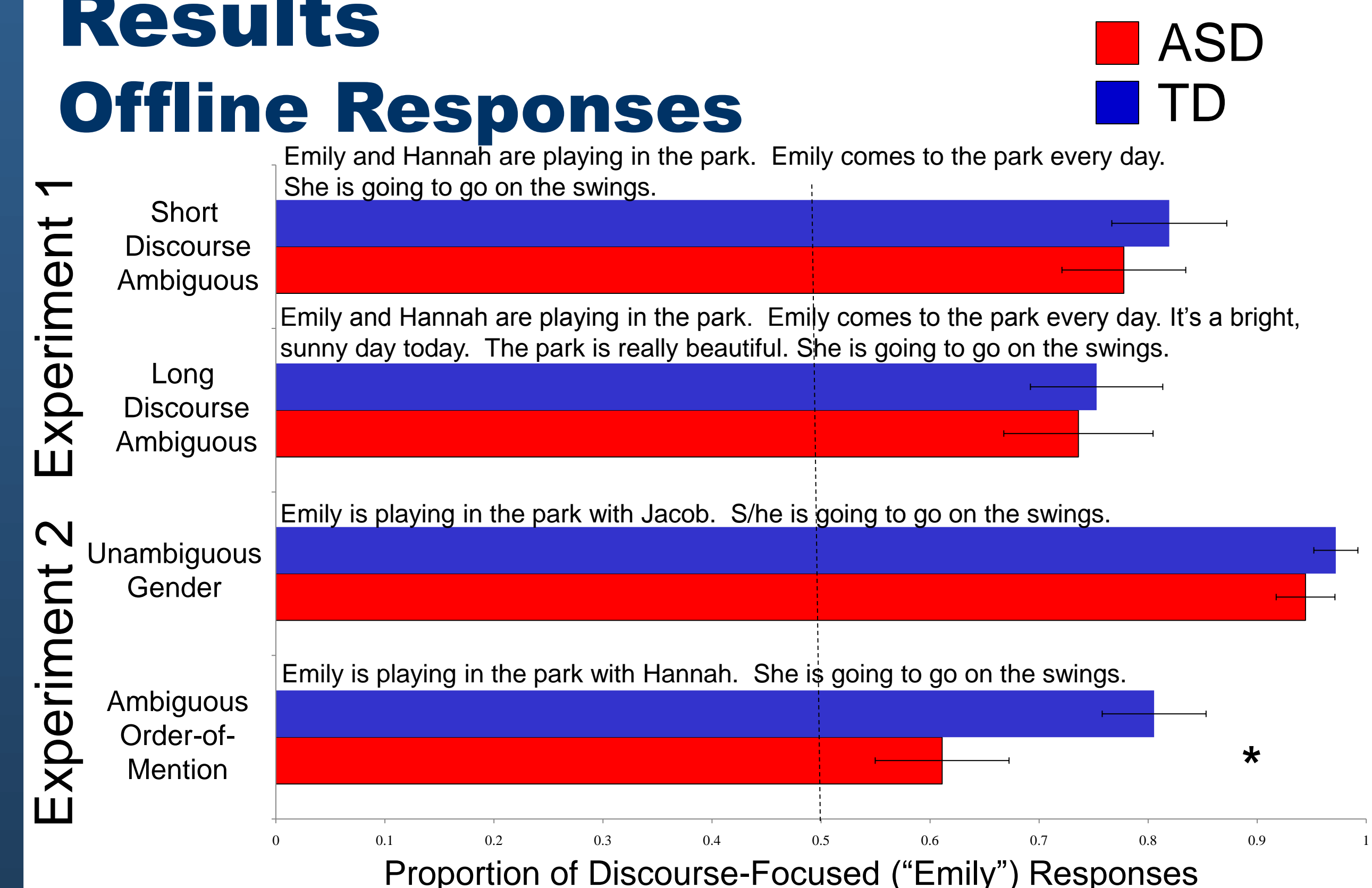
Emily is playing in the park with Hannah. She wants to go on the swings. Now click on her.



Jacob is playing soccer with Hannah. S/he scored five goals. Now click on him/her.

Results

Offline Responses

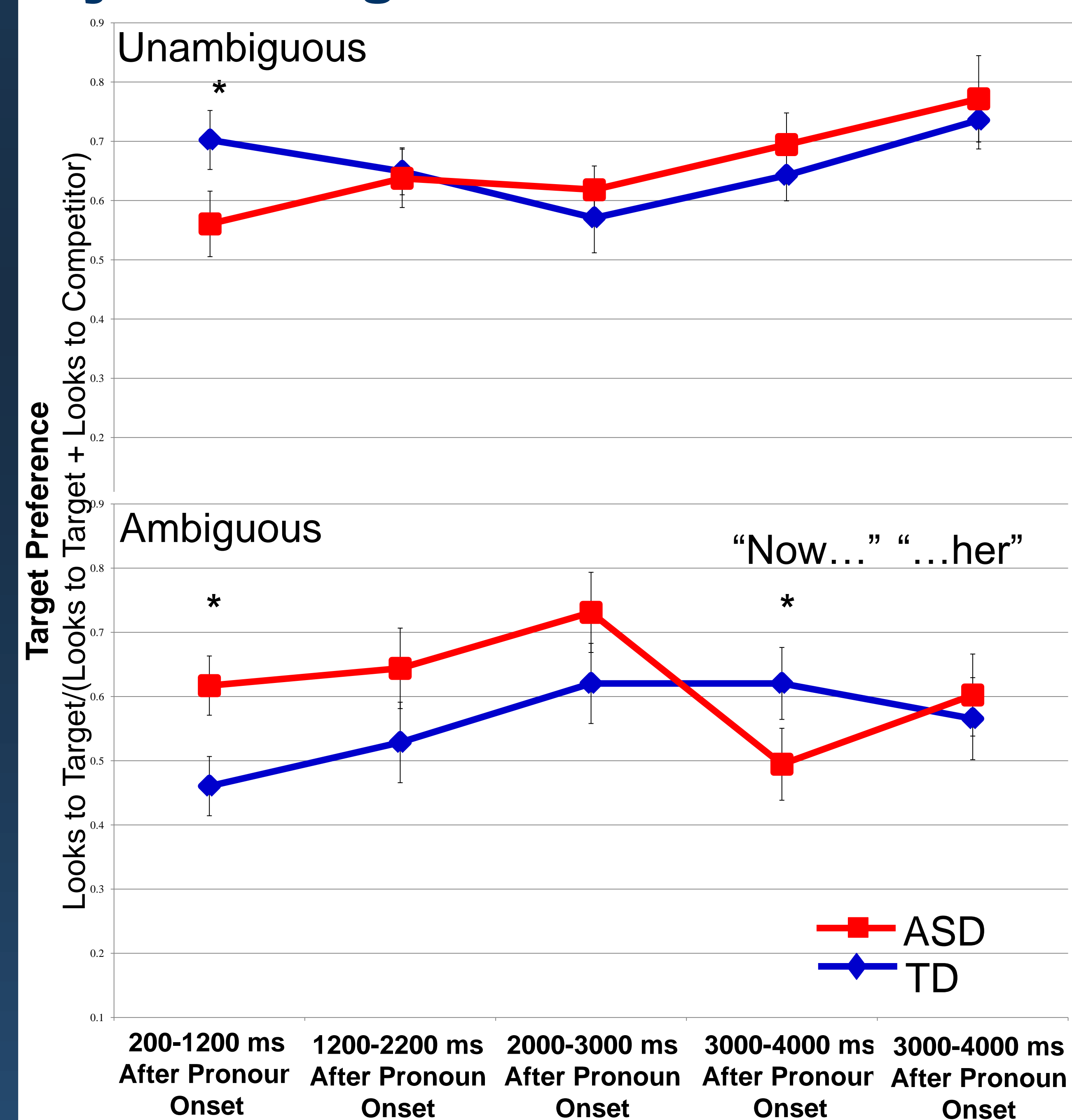


-Both ASD and TD use discourse focus and gender to resolve pronouns

-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

Arnold, J.A., Bennetto, L., & Diehl, J.J. (2009). Reference production in young speakers with and without autism. *Cognition*, 110, 131-146.

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