

Contrastive stress in typically
developing children and adults.
Possible therapeutic applications for
children in the Autism spectrum

What do we know?

- Usually, there are two impaired language abilities in Highly Verbal Children in the Autism Spectrum:
- Prosody
- Pragmatics
- Why?

What do we know?

- Why is prosody so important?
- “Intonation is a powerful tool for navigating discourse, which demands constant referential updates amongst alternatives.” (Ito et al. 2012)
- It is used to signal important or contrastive information in the discourse.
- It is connected to the pragmatic intent of speakers.

How does “Contrastive Stress” work pragmatically?



The Experiments

- Three Experiments: Global Ambiguity, Temporal Ambiguity, Production.
- Two Standardized tests.
- Test Adults and TD Children(7-10 yos) and compare the differences.
- Test ASD Children and see in what ways they differ.
- Try to develop training methods that would improve the ASD Children's results.

Global Ambiguity Task

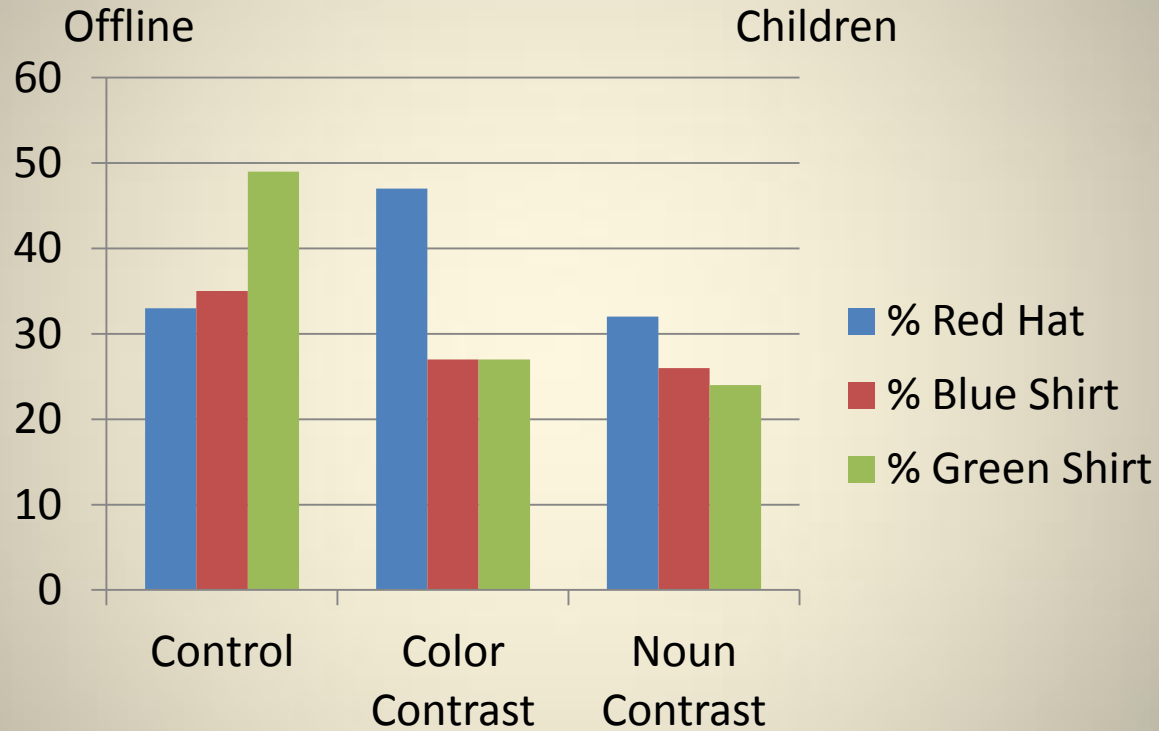


No, I don't want the BLUE hat.- Color-contrast

No, I don't want the blue HAT.- Noun-contrast

No, I don't want the blue hat.- Control

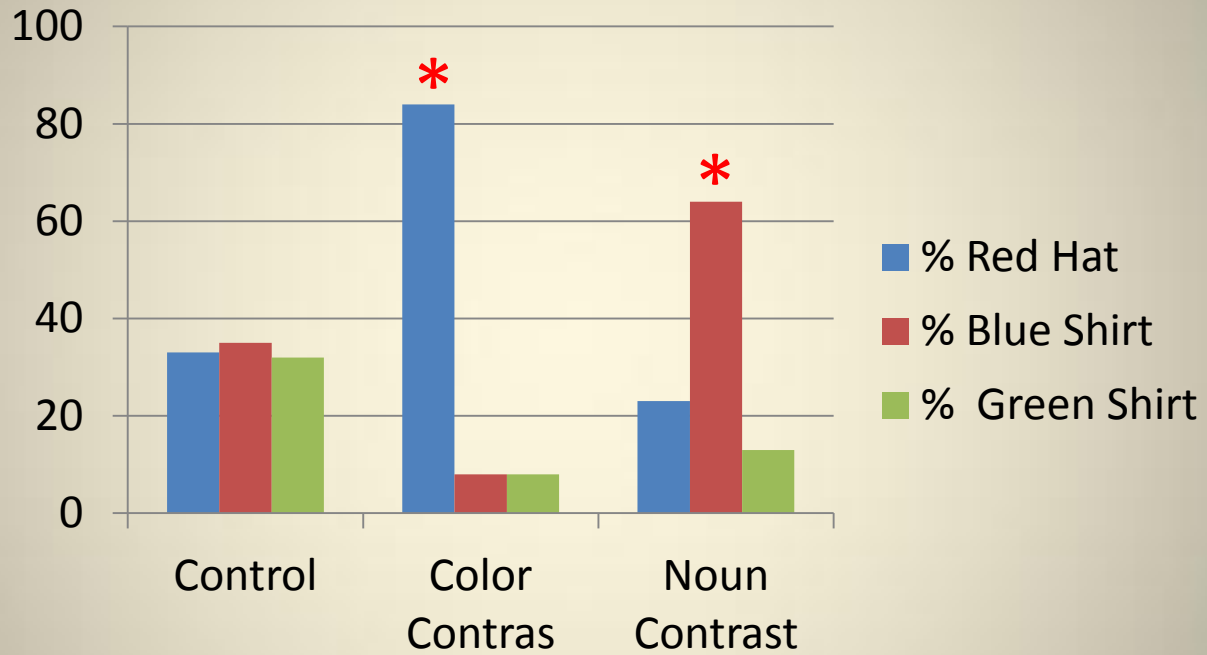
Global Ambiguity Task



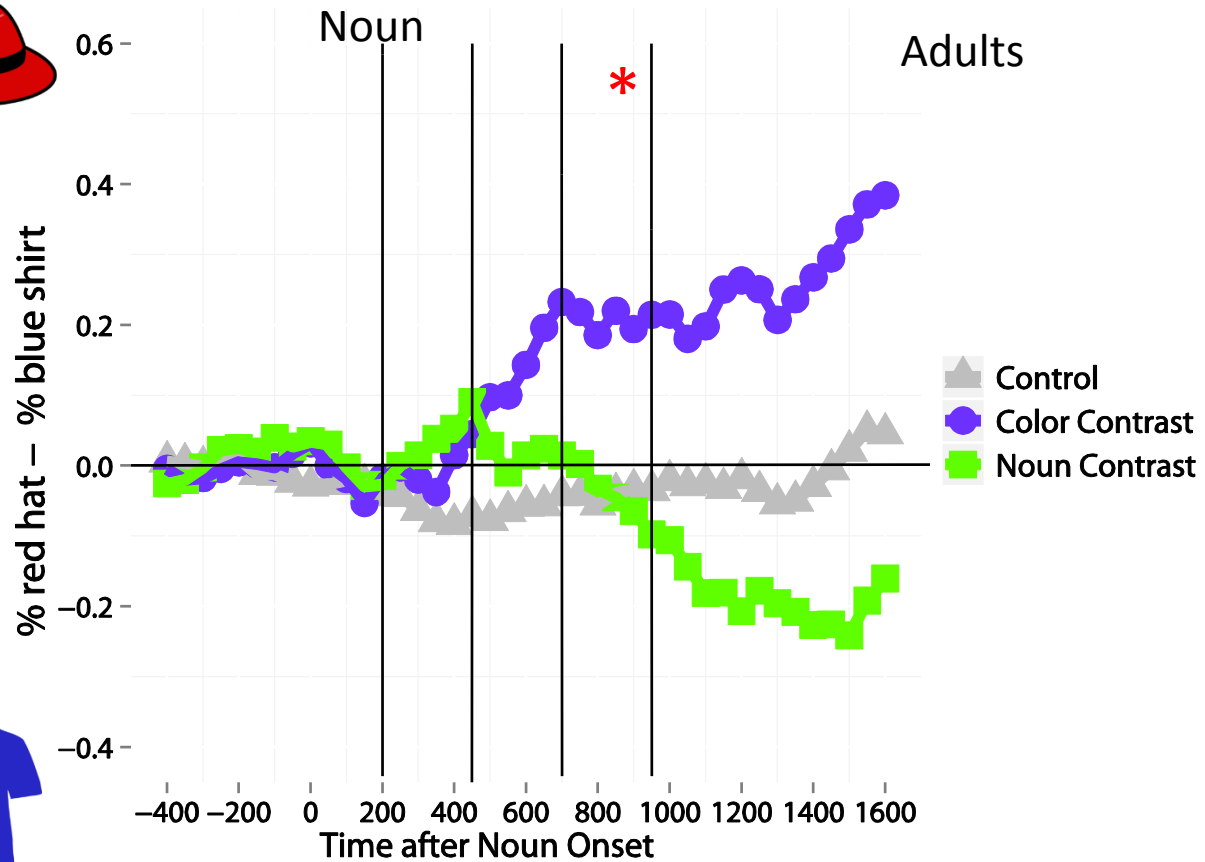
Global Ambiguity Task

Offline

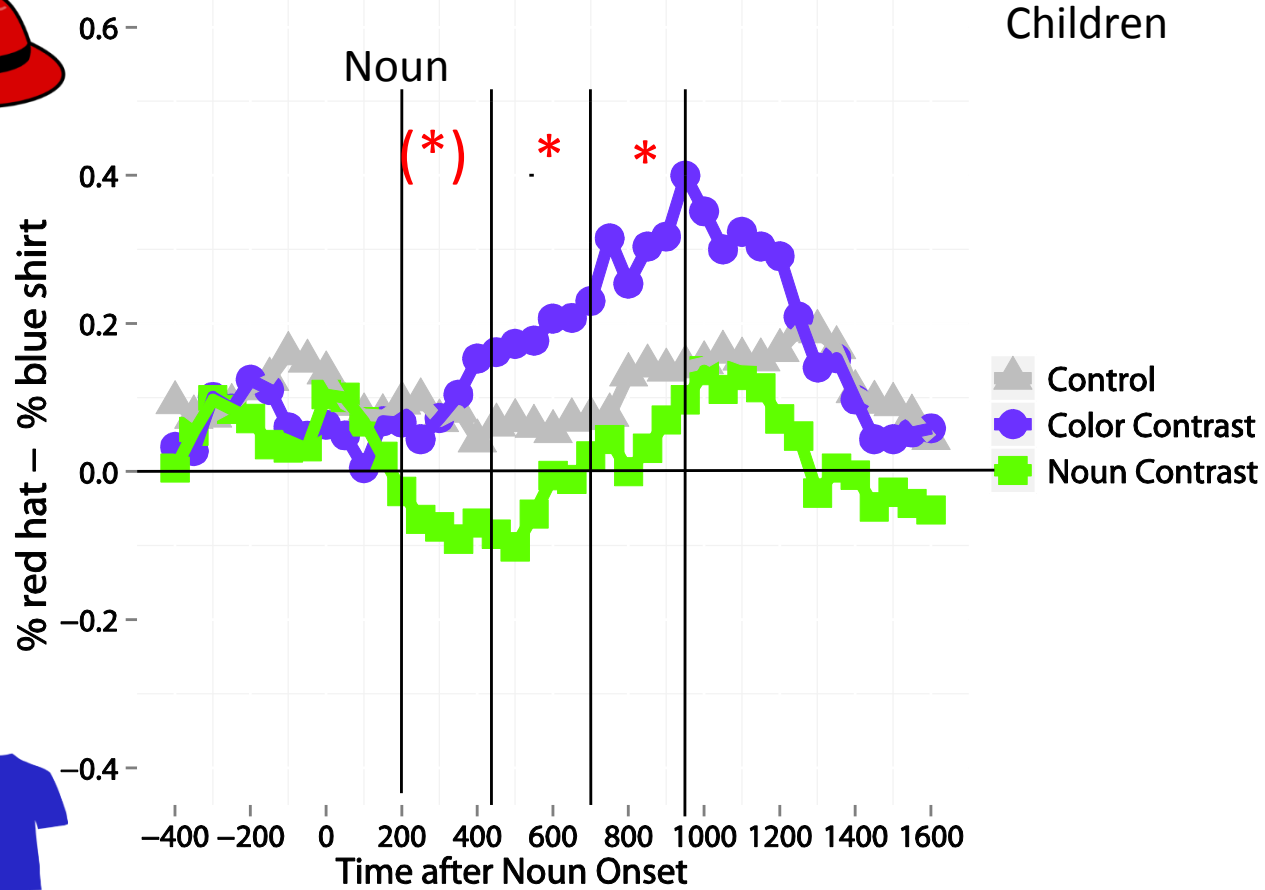
Adults



Global Ambiguity Task



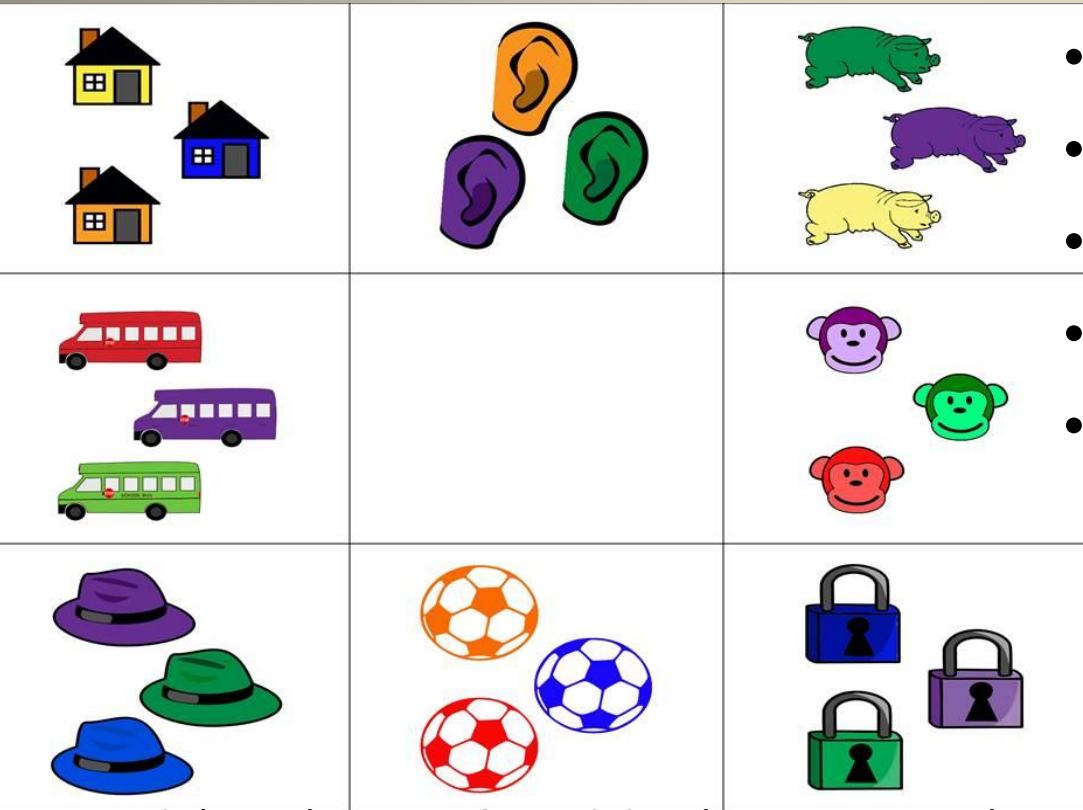
Global Ambiguity Task



Summary of the Global Ambiguity Task data

- Children showed an early effect of contrastive stress in online measures, but no effect in offline measures.
- Adults show late effect of Contrastive Stress in online measures and a significant effect in offline measures.
- Children are still developing the ability to use Contrastive Stress explicitly .
- Why are adults slower in online measures?

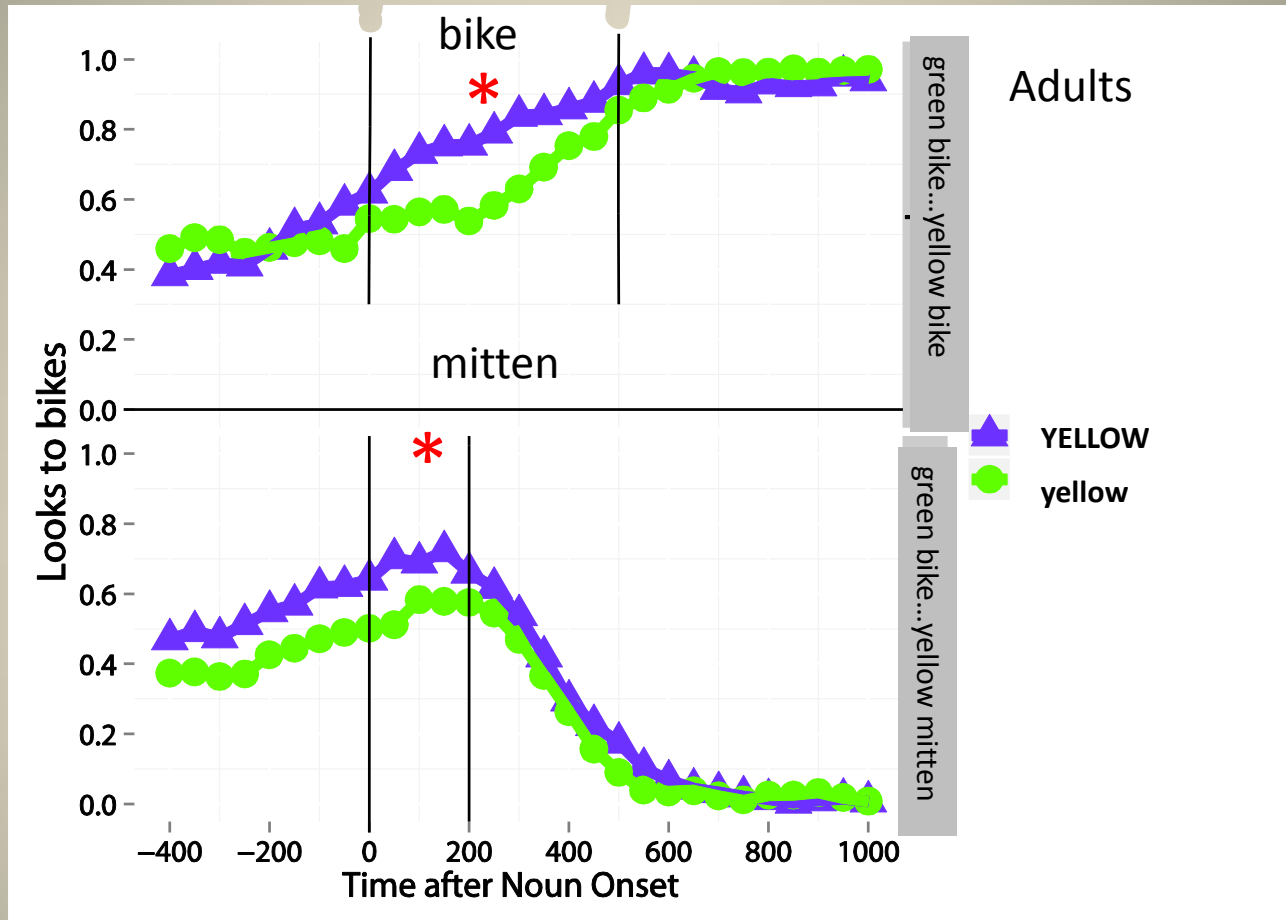
Temporary Ambiguity Task



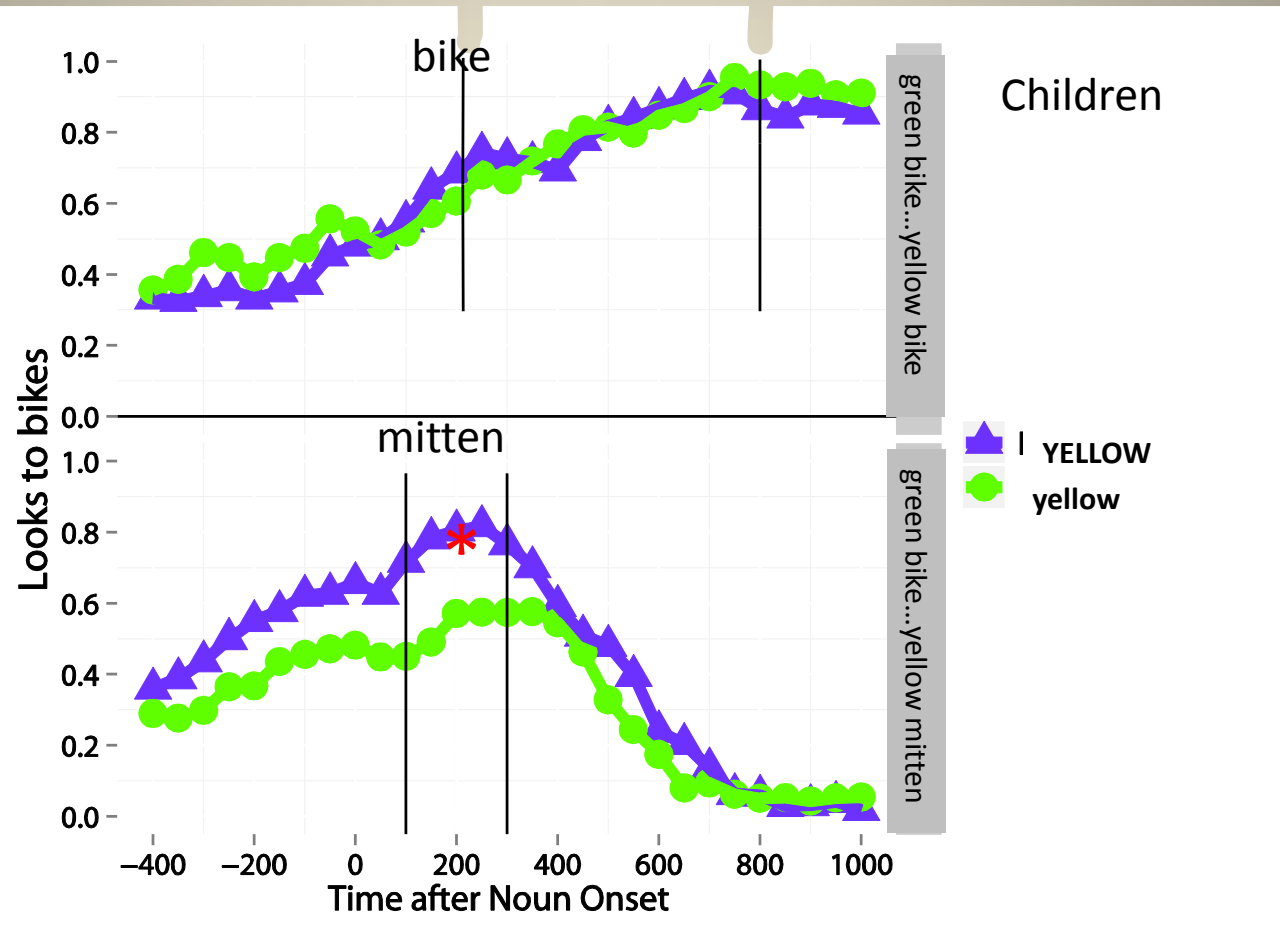
- Four conditions:
- green bike...YELLOW bike.
- green bike...yellow bike.
- green bike...YELLOW mitten.
- Green bike...yellow mitten.

Ito et al. (2012), Nappa&Snedeker (in preparation)

Temporary Ambiguity Task



Temporary Ambiguity Task

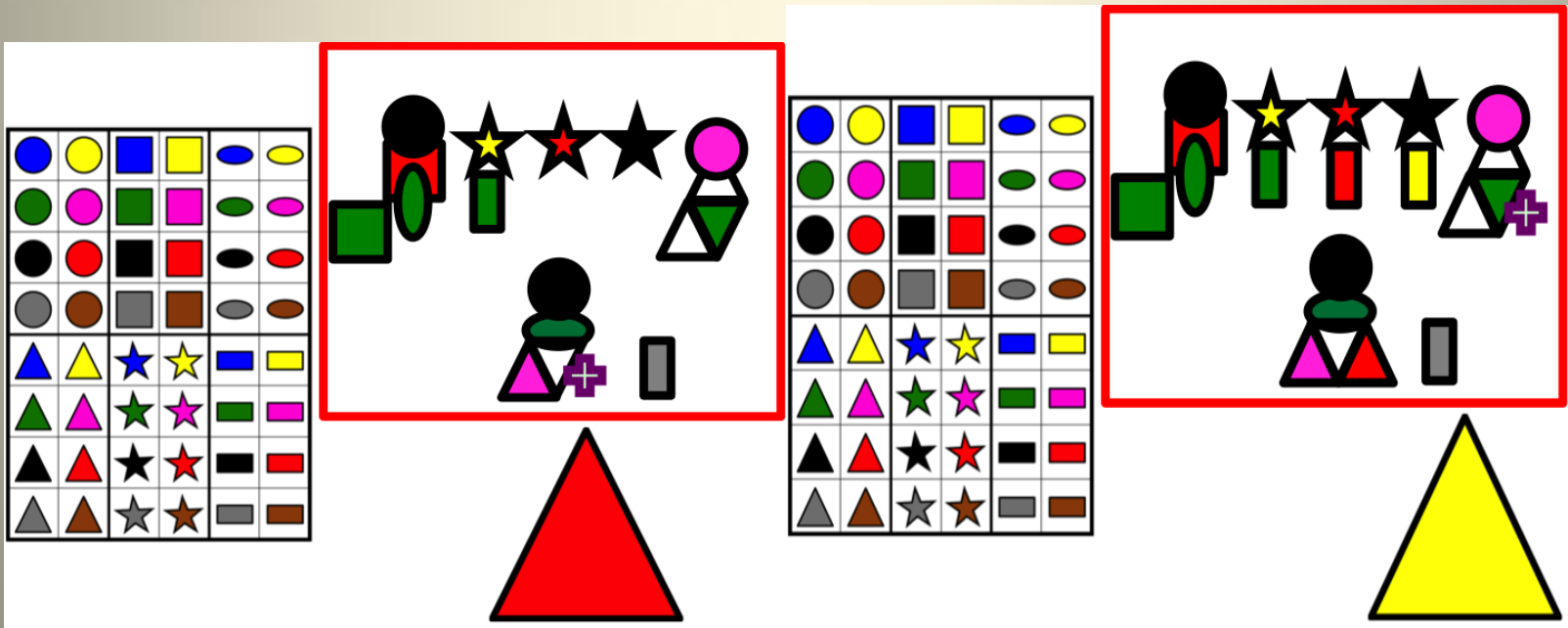


Summary of the Temporary Ambiguity Task data

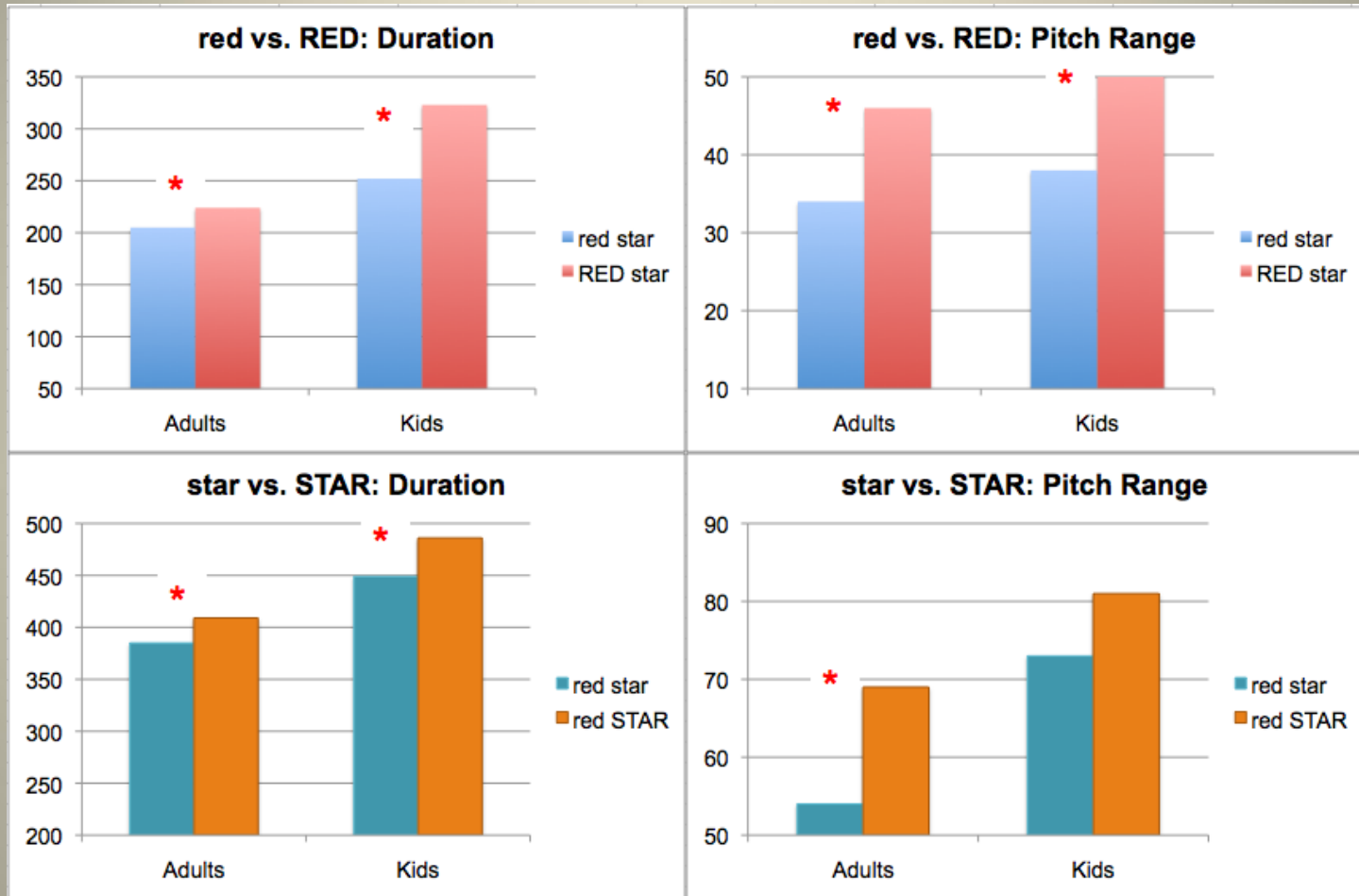
- Adults show an effect of contrastive stress in online measures.
- Children only showed a reliable effect in the “green bike...YELLOW mitten” condition.
- Due to a strong anaphoric bias?

Production Task

- Red triangle – YELLOW triangle
- Red circle – red TRIANGLE
- Red circle – blue triangle



Production Task



Summary of the Production Task

- Children were similar to adults in using prosody to mark pragmatic intention.
- This is further evidence to show that children are already developing this ability even if they are not able to use it in every single task.

General Summary

- What do children know about Contrastive Stress?
- They use it in online measures.
- Nevertheless, it seems that they have a hard time using it in offline measures.
- This seems to show that children are still developing this ability, and although it already plays a role, it's not strong enough to be explicitly used.

Next Steps

- Compare TD children with ASD children.
- Training effects:
 - Can performance be improved by training?

Thank you very much!

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