

# Sensing subjectivity: Children's semantic & epistemological development

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## Background

- Word meanings may be subjective, posing a challenge for semantic compositionality
- Subjective words permit faultless disagreement<sup>1</sup>

→ How does the adult intuition that subjective disagreements are faultless develop?

Faultless disagreement could arise when:

- Speakers have different personal tastes
- A predicate is inherently vague
- Speakers have had different experiences, thus different standards

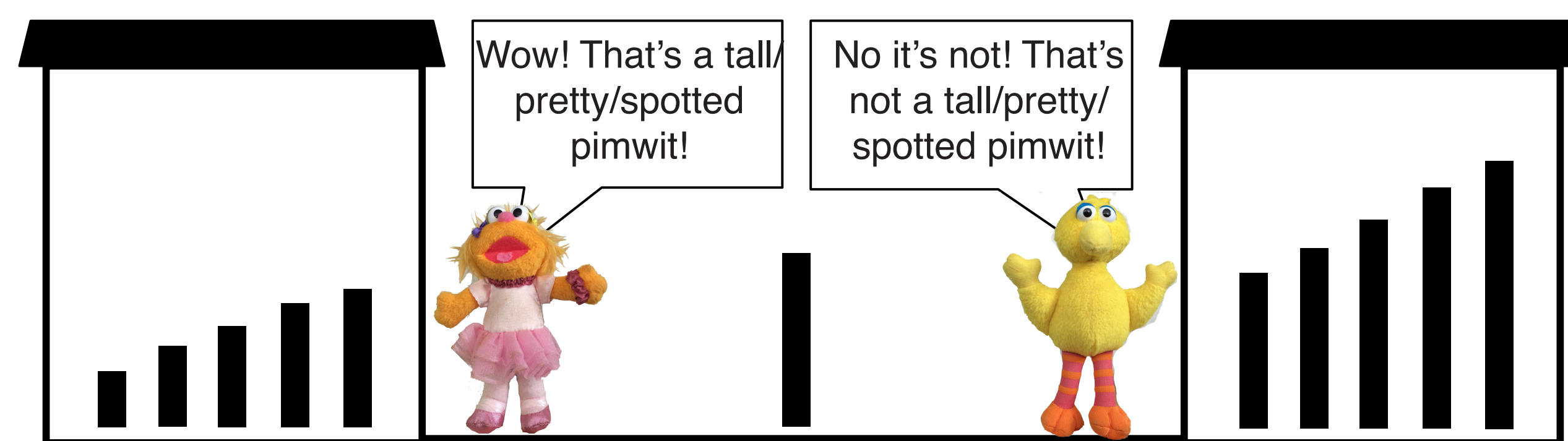
→ Do adults and children consider a speaker's opinion and experience when interpreting different adjectives?

- 4-year-olds understand that *tall* indicates the high end of a specific distribution<sup>2</sup>
- Young children may be naive realists<sup>3</sup>

Faultless disagreement **not** permitted ? Permit faultless disagreement

ABSOLUTE adjectives	RELATIVE adjectives	SUBJECTIVE adjectives
<i>spotted, striped, clear, full</i>	<i>tall, big, cold, heavy, expensive</i>	<i>pretty, tasty, funny, boring</i>

## Stimuli & Method



Puppets are independently exposed to distinct (see above) or identical distributions of novel objects, varying along two dimensions (e.g., height and spottedness), then disagree about a novel, intermediate object.

Trial Type	Novel Object	Disagreements
Training Trials	fep	<i>white/black, sparkly/round</i>
	zav	<i>blue/red, shiny/square</i>
Critical Trials	pimwit	<i>spotted, tall, pretty</i>
	pimwit (plain)	<i>pretty</i>
	dax	<i>striped, big, boring</i>
	dax (plain)	<i>boring</i>

Adults ONLY

TRUE/FALSE ABSOLUTE RELATIVE SUBJECTIVE

## Method, cont.

### Test Questions

Following each assertion:

CRITICAL QUESTION: *Zoe said, "That's a tall pimwit," was she wrong, or could she be right?*  
UTTERANCE EXPLANATION: *Why?*

Following each disagreement:

DISAGREEMENT EXPLANATION: *Why did Zoe and Big Bird not agree?*

For each object, in a post-test:

PERSONAL PERCEPTION: *Is this pimwit tall?*

**FAULTLESS DISAGREEMENT = 'could be right' for both characters**

Qualitative responses coded into following categories:

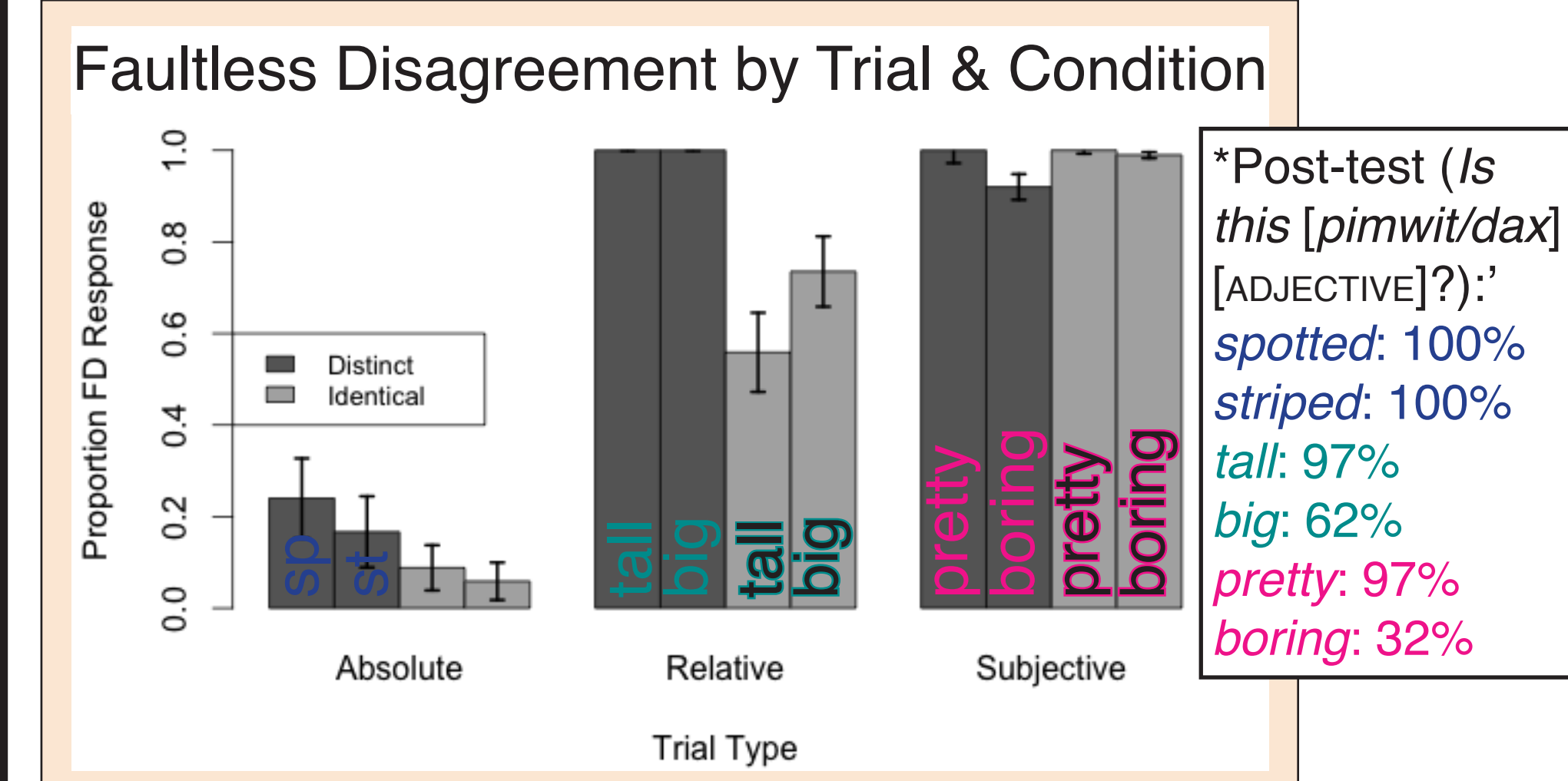
code	example
object property	<i>There are dots on the pimwit.</i>
distribution exposure	<i>Big Bird saw tall pimwits &amp; Zoe saw short ones.</i>
speaker opinion	<i>Big Bird likes purple &amp; Zoe hates spots.</i>
social/moral	<i>They aren't friends.</i>
incompetence	<i>She needs glasses!</i>
metalinguistic	<i>Pretty is subjective.</i>
outside experience	<i>He thinks there are others that are taller out there.</i>

## Study 1: Adults

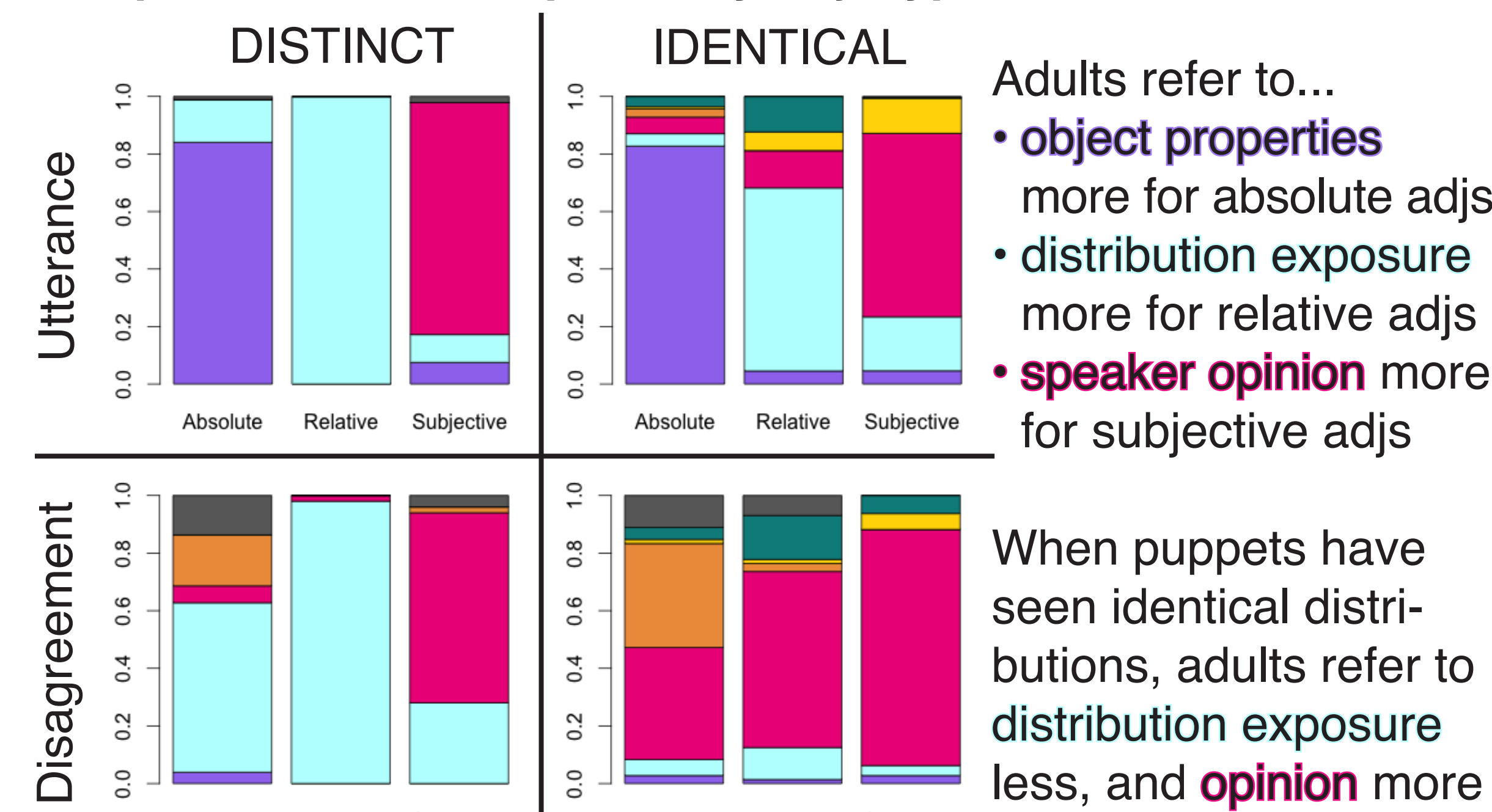
Are faultless disagreement judgments modulated by speakers' experience?

→ Characters exposed to **distinct** or **identical** distributions

Participants: 59 adults (DISTINCT: 25 adults, 18 women, M = 21 yrs, SD = 1.7 yrs; IDENTICAL: 34 adults, 26 women, M = 20.9 yrs, SD = 3.5 yrs)



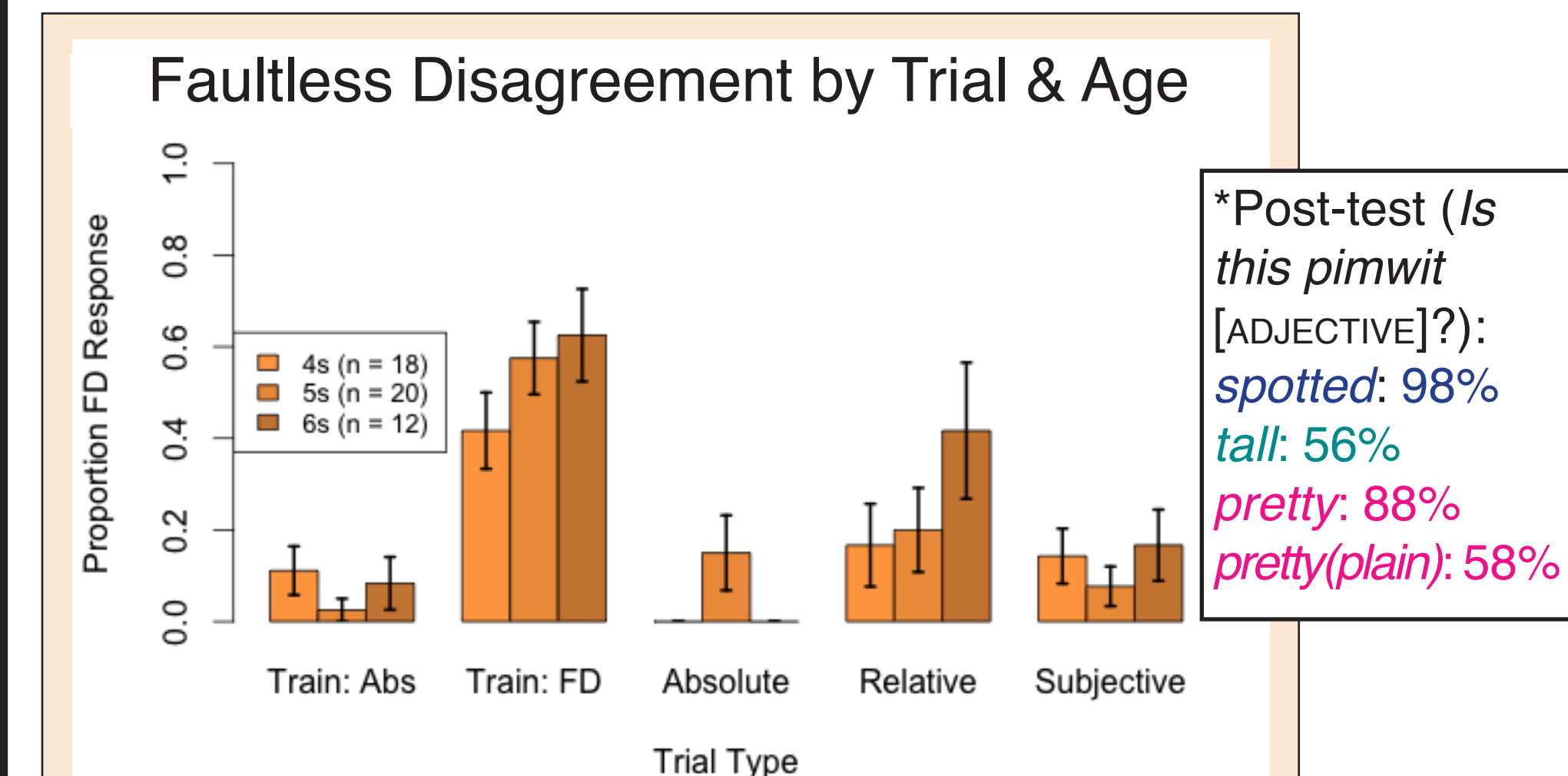
### Prop. Qualitative Response by Adj. Type



## Study 2: Children

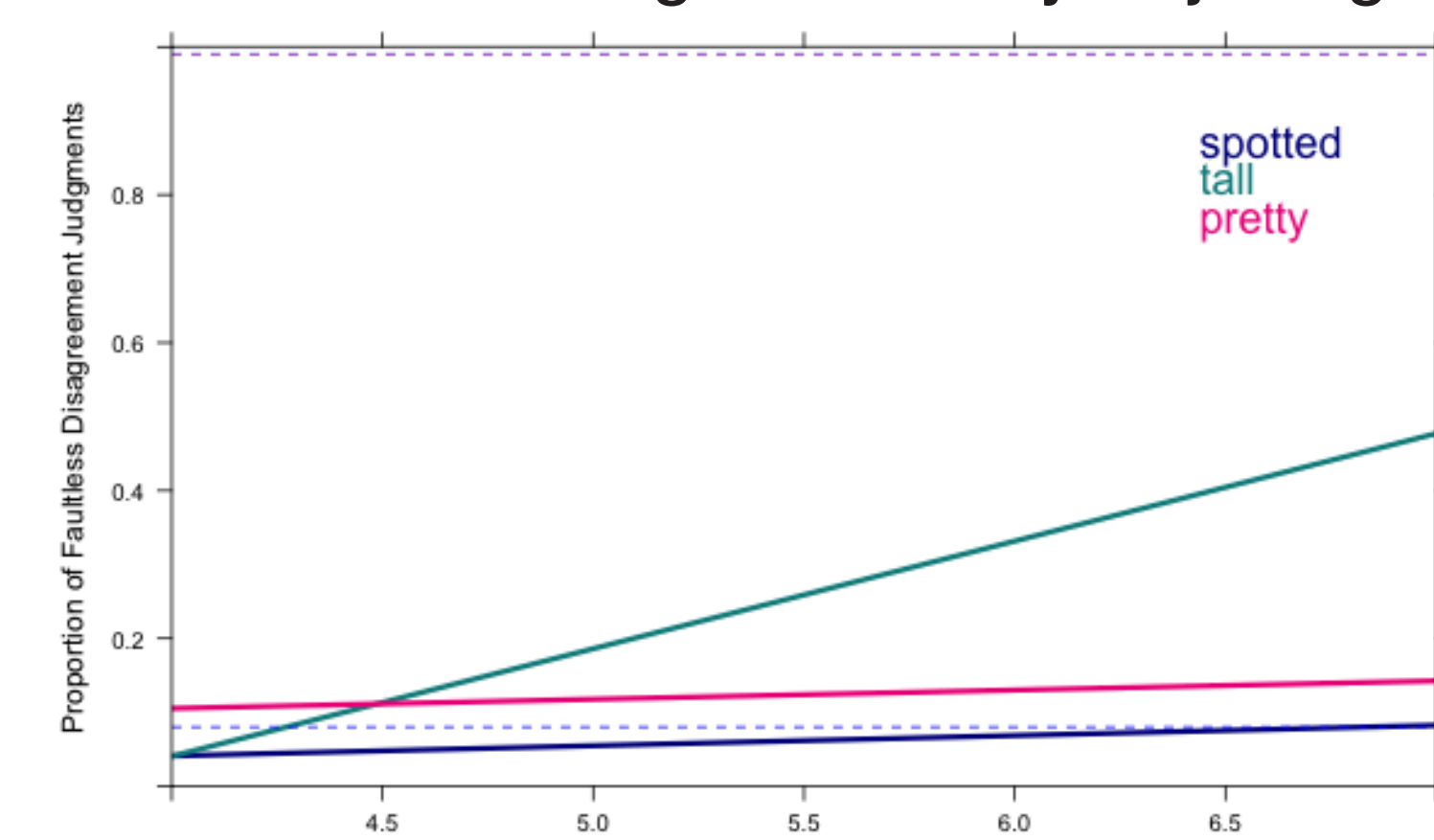
Do children permit faultless disagreement for subjective adjectives, and relative adjectives when characters have been exposed to **distinct** distributions?

Participants: 50 children, 4;0 - 6;11 (M = 5;4, SD = 8.6 mos)



- Passing training **not** predictive of critical trial responses
- Children 'sided' with the speaker who accorded with their own perceptions

### Faultless Disagreement by Adj & Age

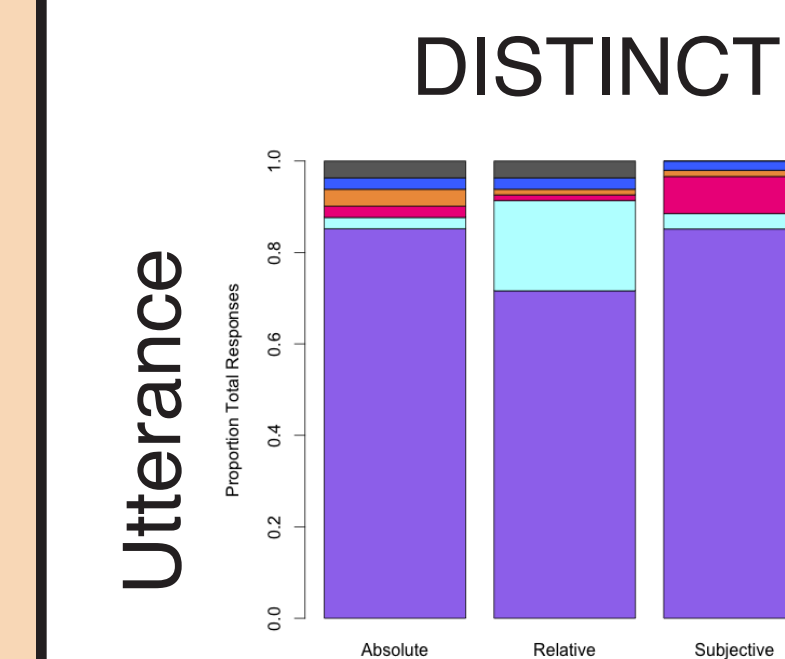


Adult rates are shown with dashed line.  
 • Children's rates of faultless disagreement only increase with age for *tall*.

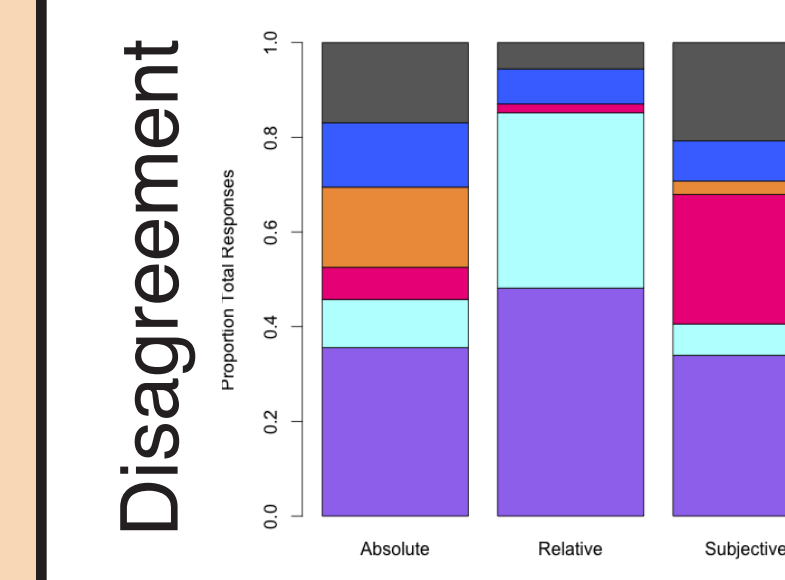
Do they understand that different information sources are relevant for different adjectives?

## Study 2, cont.

Children do not permit faultless disagreement for *pretty*, & despite age-related increases in judgments for *tall*, are still well below adult rates.



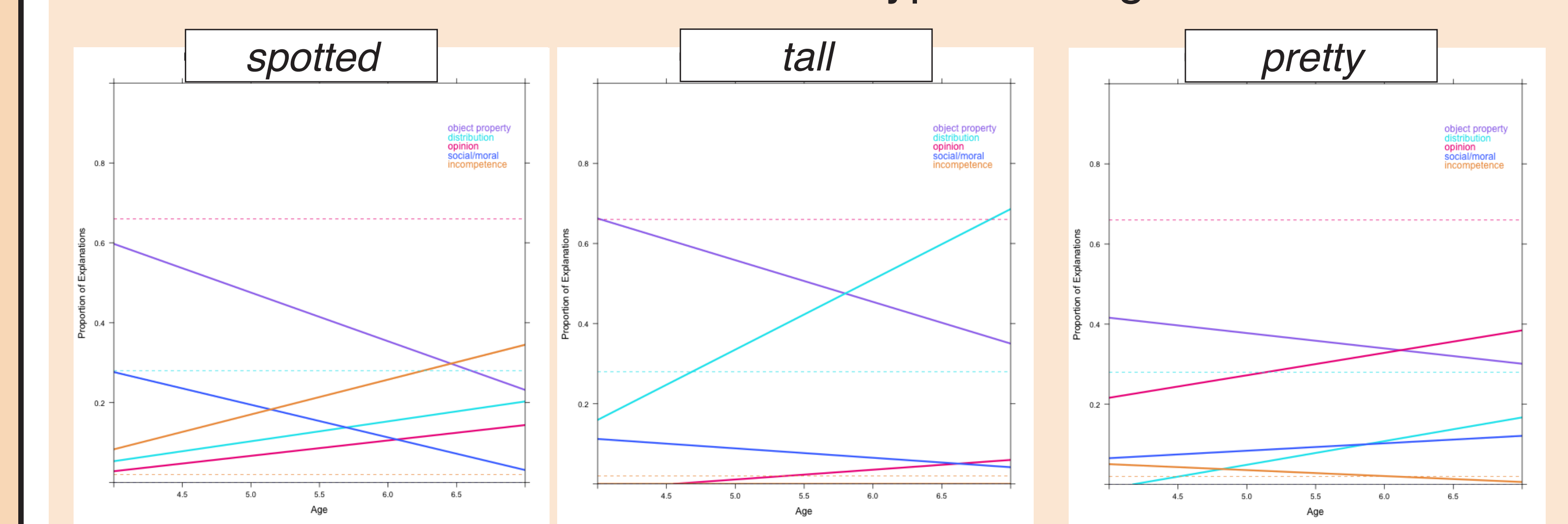
To explain utterance's truth, children overwhelmingly refer to **object properties**



In accounting for disagreements, children refer to:  
 • **object properties** the majority of the time, and equally across adjs  
 • **distribution exposure** more for *tall*  
 • **speaker opinion** more for *pretty*  
 • **incompetence** more for *spotted*

consistent with adults

### How Reference to Information Types Changes over Time



## Summary & Future Directions

- Adults permit faultless disagreement for many reasons: distribution exposure, vagueness, and speaker opinion
- Children reluctant to make faultless disagreement judgments, but exhibit increasing sensitivity to distribution exposure and speaker opinion

### Future directions

- Can children use consensus information or other cues to first identify subjective adjectives?
- Is a speaker's competence evaluated differently for 'incorrect uses' of absolute vs. relative/subjective adjectives?
- How does children's understanding of linguistic subjectivity relate to their epistemological development?

## References

- 1 Barker, C. (2013). *Inquiry*, 56(2-3), 240-257.
- 2 Barner, D. & Snedeker, J. (2008). *Child Development*, 79(3), 594-608.
- 3 Holubar, T. F. & Markman, E. M. (2013). *Proceedings of the Cognitive Science Society*, 603-608.