

Sensing subjectivity: Semantic and epistemological development

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Background

- Word meanings may be subjective, posing a challenge for semantic compositionality
- Subjective words permit faultless disagreement¹

→ 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

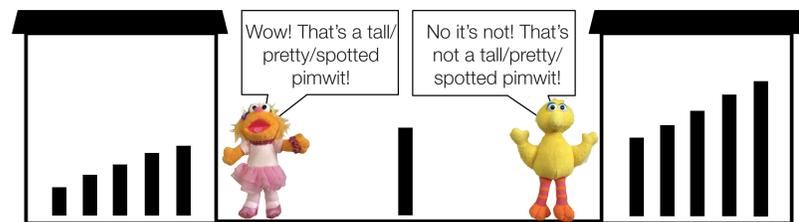
→ Do adults and children consider a speaker's opinion and experience when interpreting different adjectives?

- 4-year-olds understand that words like tall are interpreted relative to specific distributions²
- Young children may be naive realists³

Faultless disagreement not permitted ? Permit faultless disagreement

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

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	white/black, sparkly/round
	zav	blue/red, shiny/square
Critical Trials	pimwit	spotted, tall, pretty
	pimwit (plain)	pretty
	dax	striped, big, boring
	dax (plain)	boring

TRUE/FALSE ABSOLUTE RELATIVE SUBJECTIVE } Adults ONLY

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?*

FAULTLESS DISAGREEMENT = 'could be right' for both speakers

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

Qualitative responses coded into following categories:

For each object, in a post-test:
PERSONAL PERCEPTION: *Is this pimwit tall?*

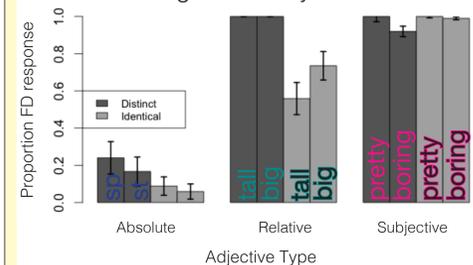
code	example
object property	<i>There are dots on the pimwit.</i>
distribution exposure	<i>He saw tall pimwits & she saw short ones.</i>
speaker opinion	<i>Big Bird likes purple & Zoe hates spots.</i>
social/moral	<i>They aren't friends.</i>
incompetence	<i>She needs glasses!</i>
metalinguistic	<i>Pretty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

Experiment 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)

Faultless Disagreement by Trial & Condition



*Post-test: Is this [pimwit/dax] [Adj]? (% YES):
spotted: 100%
striped: 100%
tall: 97%
big: 62%
pretty: 97%
boring: 32%

UTTERANCE EXPLANATIONS

- Adults refer to...
- object properties more for abs.
 - distribution exposure more for relative adjectives
 - speaker opinion more for subj.

DISAGREEMENT EXPLANATIONS

- Adults refer to...
- incompetence more for abs.
- In IDENTICAL condition, adults refer to
- distribution exposure less
 - opinion more overall
 - incompetence more for abs.

- Adult faultless disagreement responses differentially related to post-test judgments by adj.

CONDITION X ADJECTIVE TYPE interaction:

- FD rates decrease in IDENTICAL condition for absolute & relative, but not subjective, adjs.

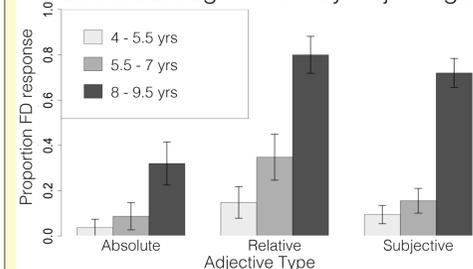
Experiment 2: Children

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

Participants: 74 children, 4;0 - 9;6

- 4;0 - 5;6, n = 25
- 5;6 - 7;0, n = 25
- 8;0 - 9;6, n = 24

Faultless Disagreement by Adj. & Age



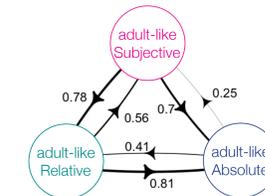
*Post-test (Is this pimwit [ADJECTIVE]?):
spotted: 98%
tall: 56%
pretty: 88%
pretty (plain): 58%

- Children 'sided' with character who accorded with their own perceptions
- Rates of faultless disagreement judgments did not differ for absolute and subjective adjectives in younger age groups

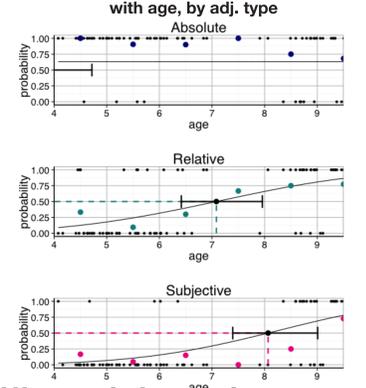
Results, cont.

How and when do children become adult-like?

- Success may depend on achievement of Interpretive Theory of Mind⁴



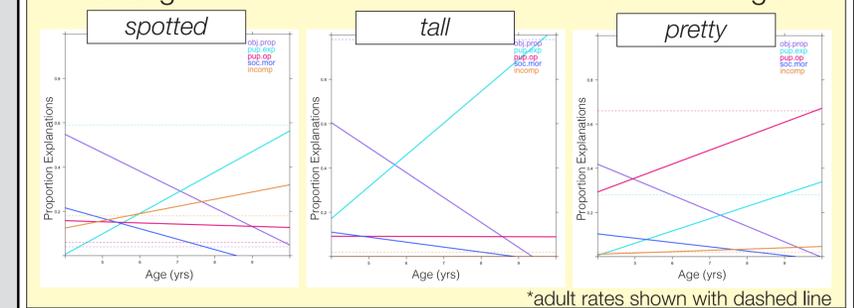
Probability of adult-like performance with age, by adj. type



- Adult-like performance on disagreements over subjective adjectives most predictive of overall adult-like performance

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

Change in Reference to Information Sources with Age



Conclusions

- Adults permit faultless disagreement for many reasons: distribution exposure, inherent uncertainty, and speaker opinion
- Children adult-like in faultless disagreement judgments only by approx. 9 years, consistent with interpretive ToM literature⁴ → may explain advantage of relative over subjective adjs.
- Children's sensitivity to sources of subjectivity is developing through the early school years

Future Directions

- Can children and adults use consensus information to infer the subjectivity of a novel adjective?
- 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). *Cognitive Science Society*, 603-608.
- 4 Carpendale, J. I. & Chandler, M. J. (1996). *Child Development*, 67(4), 1686-1706.

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