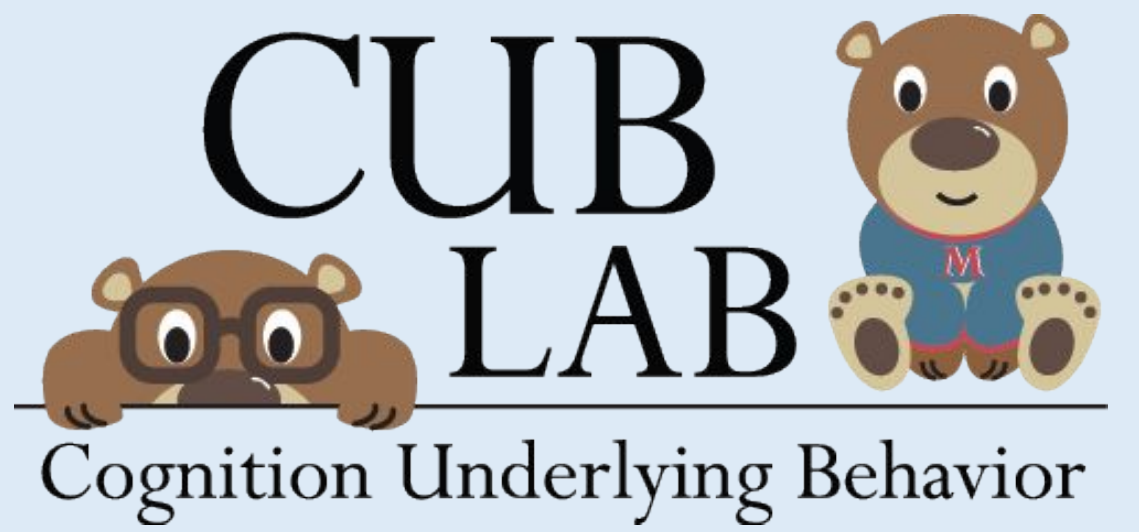# Sarcasm Understanding in Children and Adults

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## INTRODUCTION

- A developmental progression of sarcasm understanding suggests children's understanding of sarcasm improves with age, though adults are still not perfect at detecting sarcasm (Filippova & Astington, 2008; Glenwright & Pexman, 2010).

- Less work examines the use of facial cues as indicators of sarcasm, with no examination of the use of facial cues to our knowledge in children (Attardo et al., 2003).

- The present study examined how multiple cues (i.e., prosody and facial expressions) influence sarcasm interpretation in adults and 6- to 9-year-olds, given that current literature suggests children are improving at understanding sarcasm during this age range (e.g., Filippova & Astington, 2008)

## METHODS

- Participants were 40 college-age adults and thirteen 6- to 9-year-olds.

- Sarcasm Understanding Story Task

  o Participants listened to 16 stories in which a negative event occurred, see Figure 1.

    ■ Stories varied within-subjects on:

      o closing statement (compliment or criticism)

      o prosody (dry or dripping)

      o facial cues (smile or grimace, see Figure 2)

  o Participants answered questions on the speaker's meaning, belief, intentions, and attitudes for the statement.

  o An overall understanding score was calculated, and higher scores indicated better sarcasm understanding.

The use of cues in sarcasm detection may shift across the lifespan—with adults primarily using prosody and children primarily using facial expressions.



Figure 1: Story with negative event (a yucky birthday cake).



Figure 2: Smile (Positive) vs. Grimace (Negative) Facial Cues

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## RESULTS

**Adults**

- Compliments and dripping prosody were rated as more sarcastic, Walds $\chi2(1)>38$, ps<.001.

- A closing statement by prosody interaction, Wald $\chi2(1)=6.21$, p=.013, indicated that prosody was significant for both criticisms, Wald $\chi2(1)=5.01$, p=.025, and compliments, Wald $\chi2(1)=45.56$, p<.001, see Figure 3.

- **Children**

  o Compliments were rated as more sarcastic than criticisms, Wald $\chi2(1)=56.32$, p<.001.

  o A statement by face interaction, *Wald $\chi2($*1)=14.35, *p*<.001, indicated an effect of face only when a criticism was presented, *Wald $\chi2$*(1)=7.45, *p*=.006, see Figure 4.
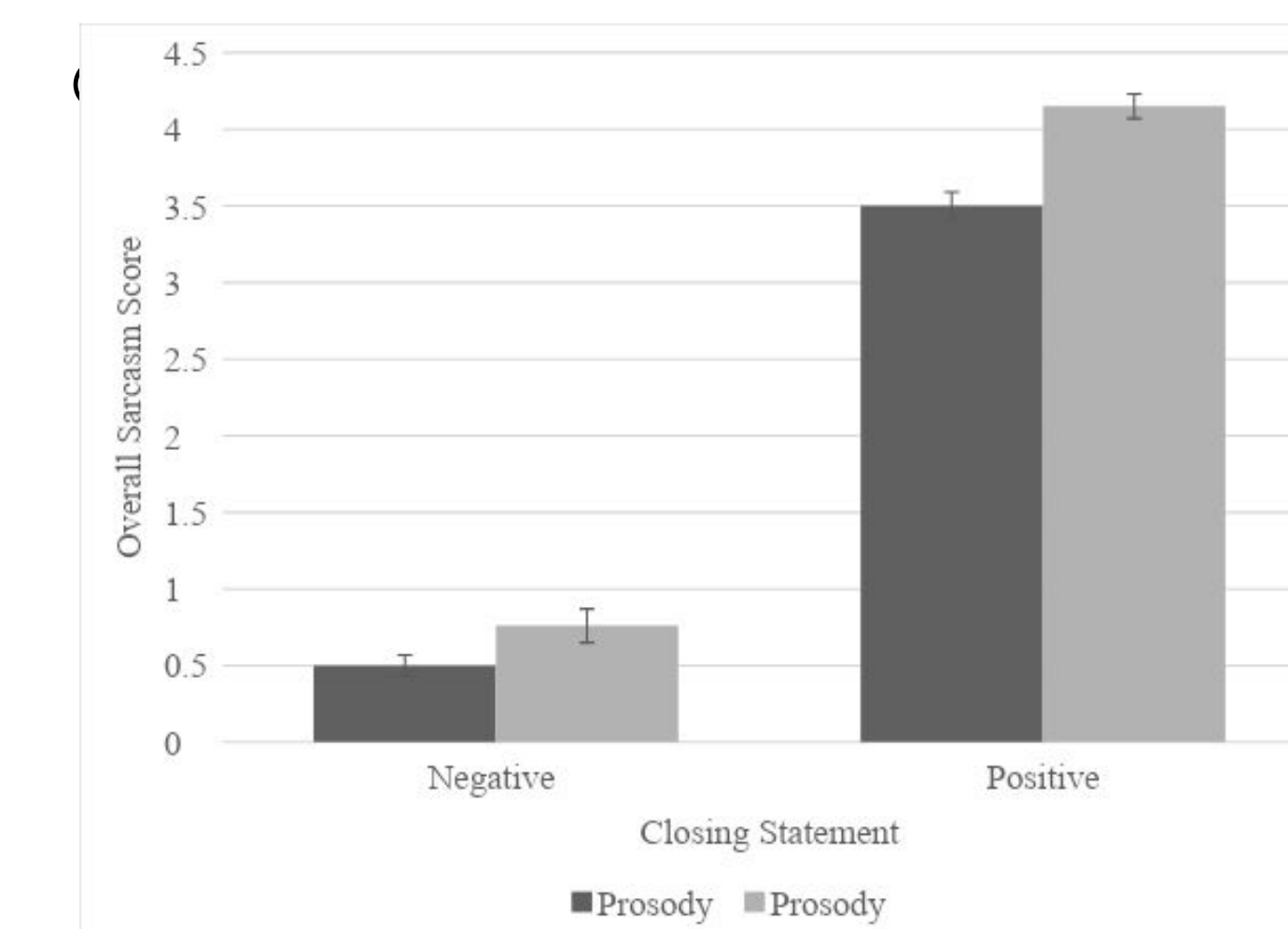


Figure 3. Closing Statement by Prosody Interaction for Overall Sarcasm Scores in Adults
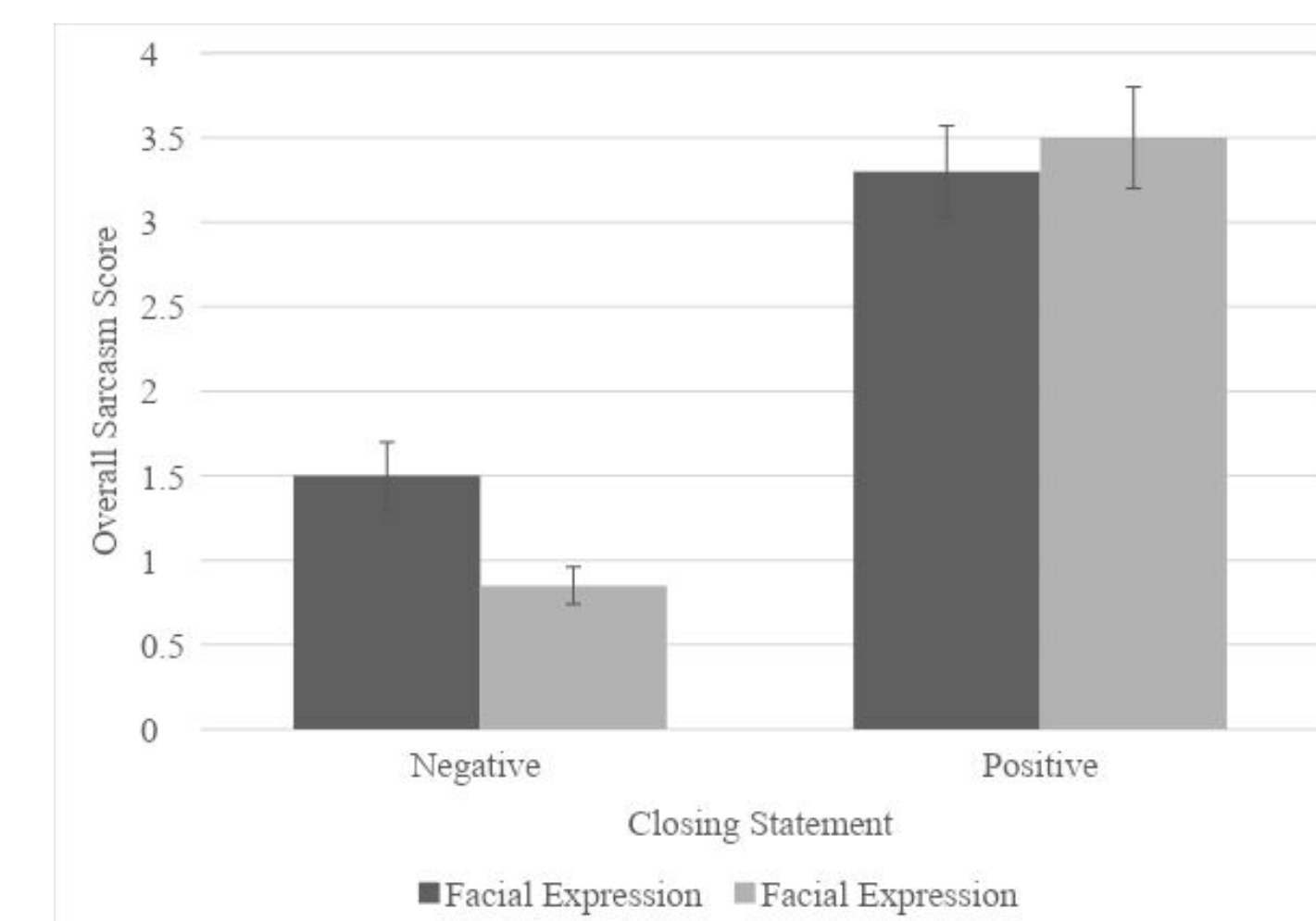


Figure 4. Closing Statement by Facial Expression Interaction for Overall Sarcasm Score in Children.

## DISCUSSION

- When multiple cues are present, adults may rely on one cue (prosody) to detect sarcasm (Capelli at al., 1990).

- For children, smiling facial cues led to higher sarcasm scores when the statement was a criticism.

  o Typically, compliments about negative events would be rated as sarcastic (Jacob et al., 2016).

  o These results may be a first step in understanding children's use of cues and appreciation of mismatch of cues in their attempts to understand sarcasm.