

CHILDREN'S SHYNESS AND EMPATHIC PHYSIOLOGICAL AROUSAL TO A PEER'S SOCIAL STRESS



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BACKGROUND

- Shyness is related to a sensitivity perceiving and detecting threat in social contexts, which can manifest as personal anxiety (Brunet et al., 2009; LoBue & Pérez-Edgar, 2014; Pérez-Edgar et al., 2010)
- We know, however, little about how shyness is related to the experience of empathic or vicarious anxiety—feeling anxious on behalf of someone else



Objective: To examine how a child's shyness was related to changes in heart rate while watching a peer prepare and deliver a speech, and if the presenting child's anxious behavior moderated this relation.

METHODOLOGY

Sample

- Children aged 9-to-11 years ($N = 62$, $M_{age} = 10.22$ years, $SD = 0.81$, 38 girls) were tested in unfamiliar same-age, same-sex dyads in the Social Development Lab at the University of Waterloo
- Each member of the dyad prepared and delivered a speech in front of a camera and small audience

Measures

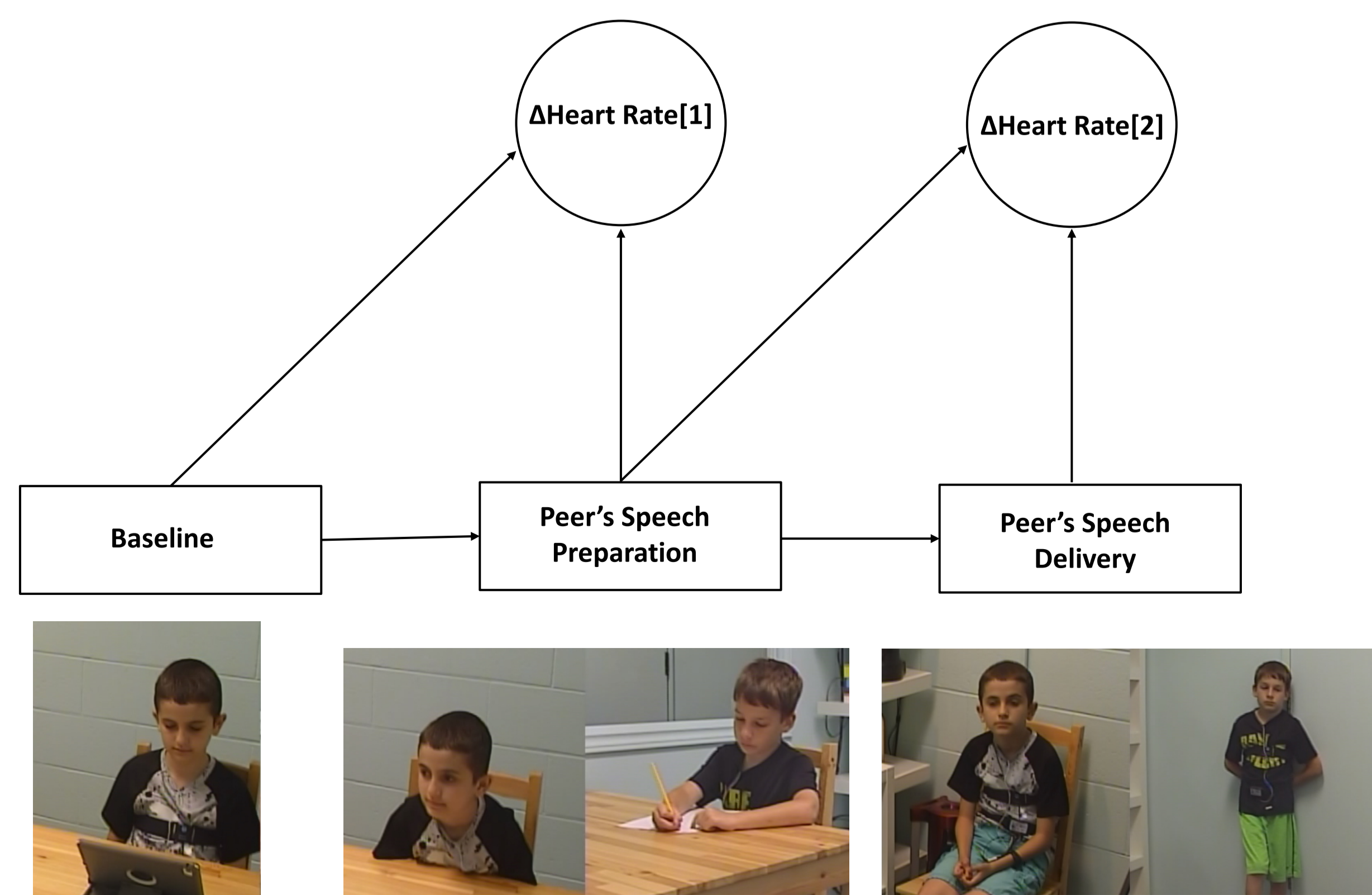
Observing Child's Shyness: Self-reported using Early Adolescent Temperament Questionnaire–Revised

Observing Child's Heart Rate (HR): Baseline, Peer Speech Preparation, Peer Speech Delivery

Presenting Child's Anxious Behavior: Physical Anxiety, Verbal Anxiety, Time Spent Speaking

Figure 1

Conceptual Overview of the Latent Change Score Model of the Observing Child's Heart Rate During Baseline, Peer's Preparation Period, and Peer's Speech Delivery. The Observing Child is On the Left Panel for Each Dyadic Photo.



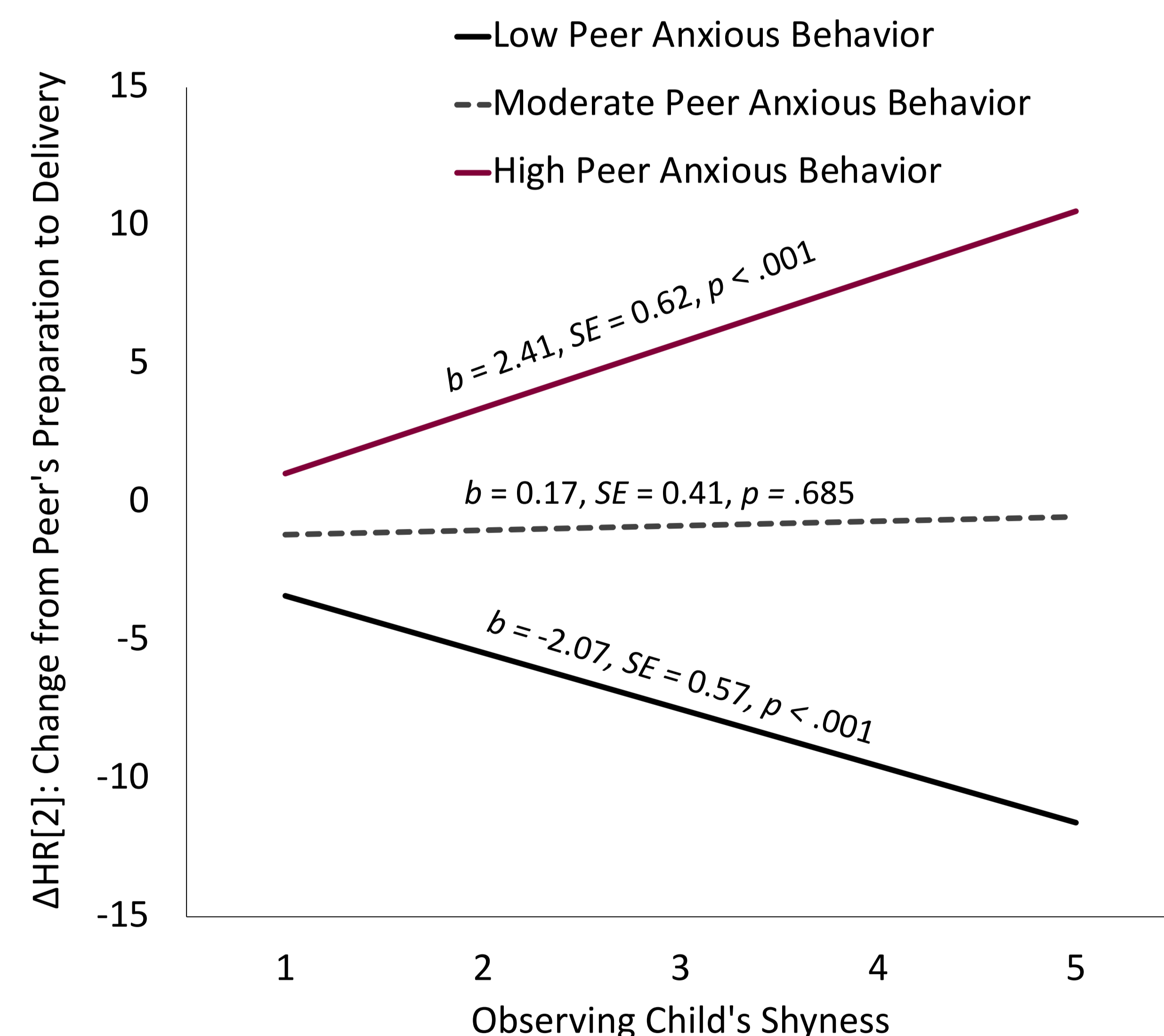
RESULTS

Summary

- Baseline to Peer's Speech Preparation:** The observing child's shyness was positively related to increases in heart rate from baseline to speech preparation, $\Delta HR[1]$, $b = 2.14$, $SE = 0.91$, $p = .019$
- Peer's Speech Preparation to Delivery:** The presenting child's anxious behavior moderated the relation between the observing child's shyness and changes in heart rate from speech preparation to delivery, $\Delta HR[2]$, $b = 2.69$, $SE = 0.52$, $p < .001$ (See Figure 1)

Figure 2

Illustration of the Latent Changes in Observer's Heart Rate from Peer's Speech Preparation to Delivery. Estimates From the Latent Difference Score Model are Plotted.



CONCLUSION AND FUTURE DIRECTIONS

- Shy children may experience empathic arousal to a peer's social stress
- Shy children are sensitive to detecting and understanding overt social signals of fear and anxiety from peers, which may impact the observing child's ability to regulate their physiological state
- Future work should examine the downstream implications of these processes for children's friendship formation, prosocial behavior, and social development

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