Emotional and Lexical Prosody Recognition in Autistic and Non-Autistic Adolescents: Divergent Patterns of Performance

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INTRODUCTION

- **Autistic individuals** have **more difficulties with *emotional prosody recognition*** than their **non-autistic peers**[1].
- This could be due to **challenges with *lexical prosody recognition*** (i.e., perception of word emphasis), but findings are mixed[2].
- To date, no studies have investigated **BOTH** emotional **AND** lexical prosody recognition in the same sample of youth.

RQ1: Do ASD youth differ from non-ASD youth in emotional AND lexical prosody recognition?
RQ2: Are these prosodic functions related?

METHODS

Participants:

- n = 32 ASD (M_{age} = 15.7, *SD* = 1.5)
- n = 54 non-ASD (M_{age} = 15.1, *SD* = 1.7)

EP Task: 40 trials

- 2 sentences, 5 emotions, 4 intensity levels
- Listen to sentence, choose EMOTION label

LP Task: 90 trials

- 30 compound sentences, early or late word emphasis, emphasized by manipulating pitch, intensity, and both combined
- Listen to sentence, choose EARLY or LATE

Analyses: **both controlling for verbal IQ & sentence**

- EP Accuracy: logistic growth curve model: group, emotion, linear, quadratic, & cubic intensity
- LP Accuracy: linear mixed-effects model: group, emphasis, & vocal cue

RESULTS

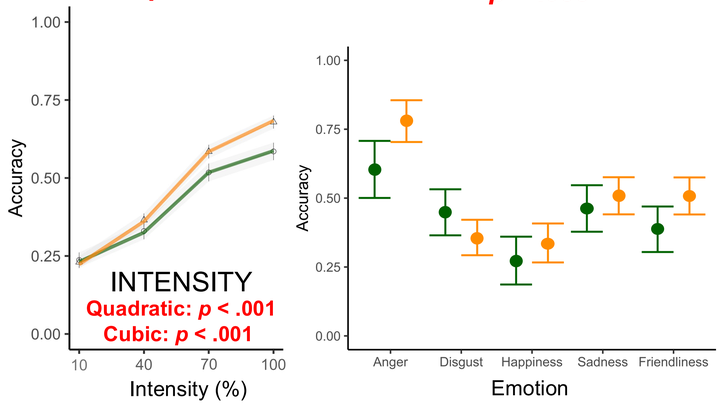
Autistic teens showed lower emotional (but higher lexical) prosody recognition than non-autistic teens.

ASD
Non-ASD

Emotional Prosody

GROUP
p = .03

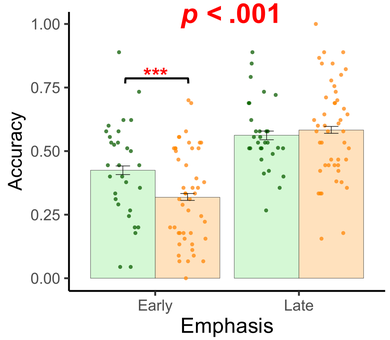
GROUP*EMOTION
p = .003



Lexical Prosody

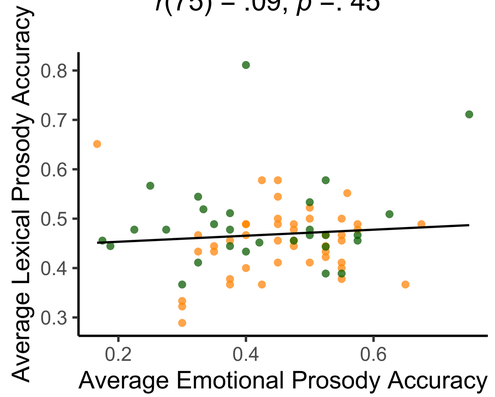
GROUP
p = .02

GROUP*EMPHASIS
p < .001



Correlation in performance across tasks

r(75) = .09, *p* =. 45



MORE RESULTS

Emotional Prosody: Additional effects of: Emotion (*p* < .001), quadratic & cubic Intensity (*p*s < .001), Emotion*Intensity (quadratic & cubic, *p* < .001), Verbal IQ (*p* = .02), & Sentence (*p* = .002).

Lexical Prosody: Additional effects of: Vocal Cue (pitch > duration; *p* = .03) & Vocal Cue*Emphasis (*p* < .001).

DISCUSSION

- Group differences in emotional and lexical prosody recognition suggest that these two prosodic functions are **differentially impacted by autism**[2].
- Emotional prosody difficulties among autistic youth may reflect **social-cognitive challenges** rather than core auditory processing differences.
- Lexical prosody recognition is largely **context-independent**, while emotional prosody recognition is largely **context-dependent**[5], perhaps explaining why autistic youth performed better on lexical prosody than emotional prosody recognition.

REFERENCES

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