

# What Emotion Do You Hear? Paving the Way of Music Emotion Recognition



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## Background

- Emotion recognition is integral to child socioemotional development <sup>1</sup>
- Better recognition → greater prosocial behavior and educational success <sup>2</sup>
- Lower recognition → anxiety, low self-esteem, suicidal ideation, lack of empathy, aggression = callous-unemotional (CU) traits <sup>3,4</sup>
- Identify CU traits early (3-5 years old) through emotion recognition tasks → effective interventions <sup>5</sup>
- Problems with current emotion recognition tasks
  - based on facial or bodily cues
  - complicated by socio-contextual factors <sup>6</sup>
- Emotion recognition in music bypasses confounding variables <sup>7</sup>
  - infants = adults in musical perception
  - aspects of music are innate/universal

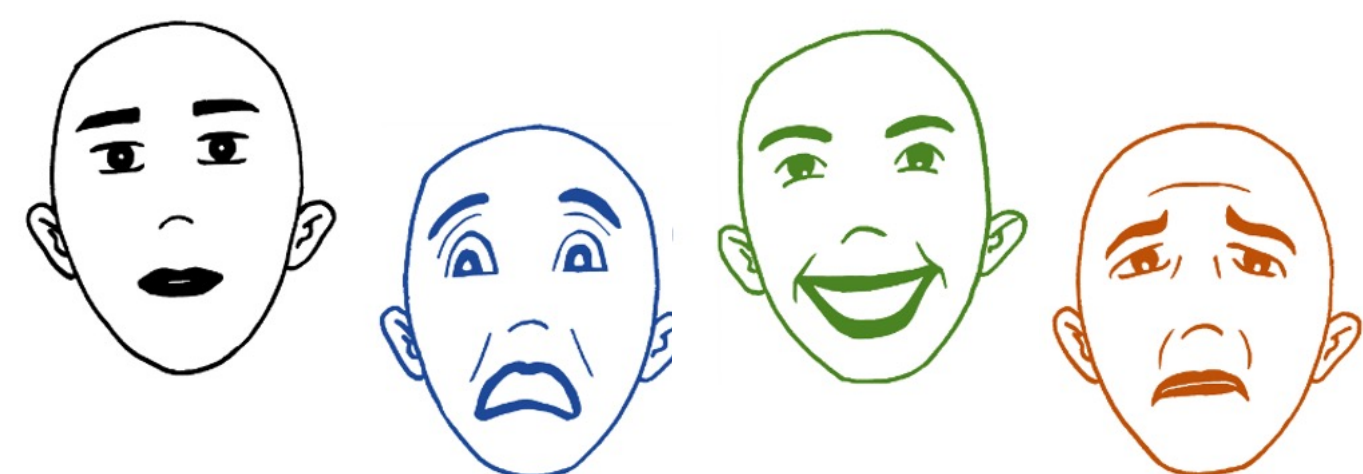
## Current Aims

This study is the first to explore the relationship between CU traits and music emotion recognition at this age range.

**Aim 1:** Can 3-5-year-olds accurately identify calm, fear, happy, and sad emotions in music above chance?

**Aim 2:** Does music emotion recognition improve across the age range?

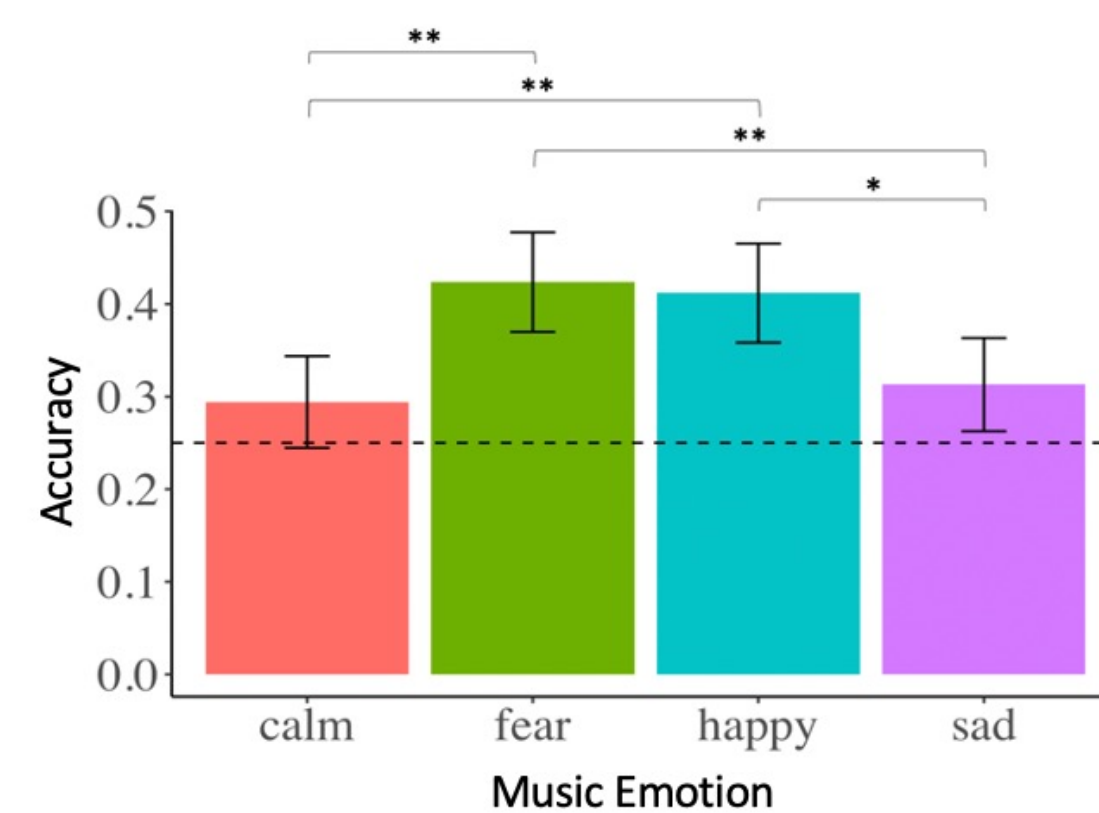
**Aim 3:** How are CU traits related to music emotion recognition accuracy?



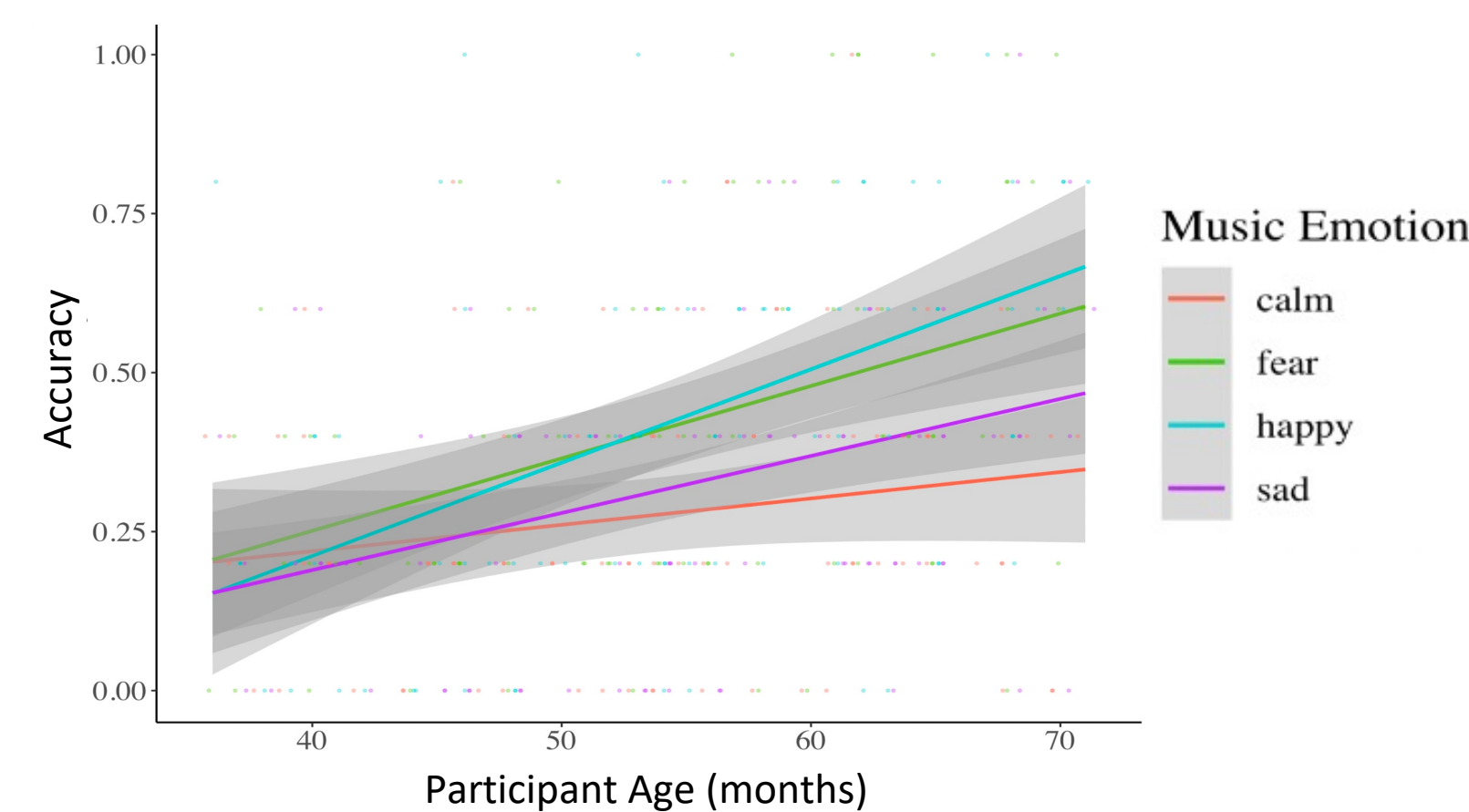
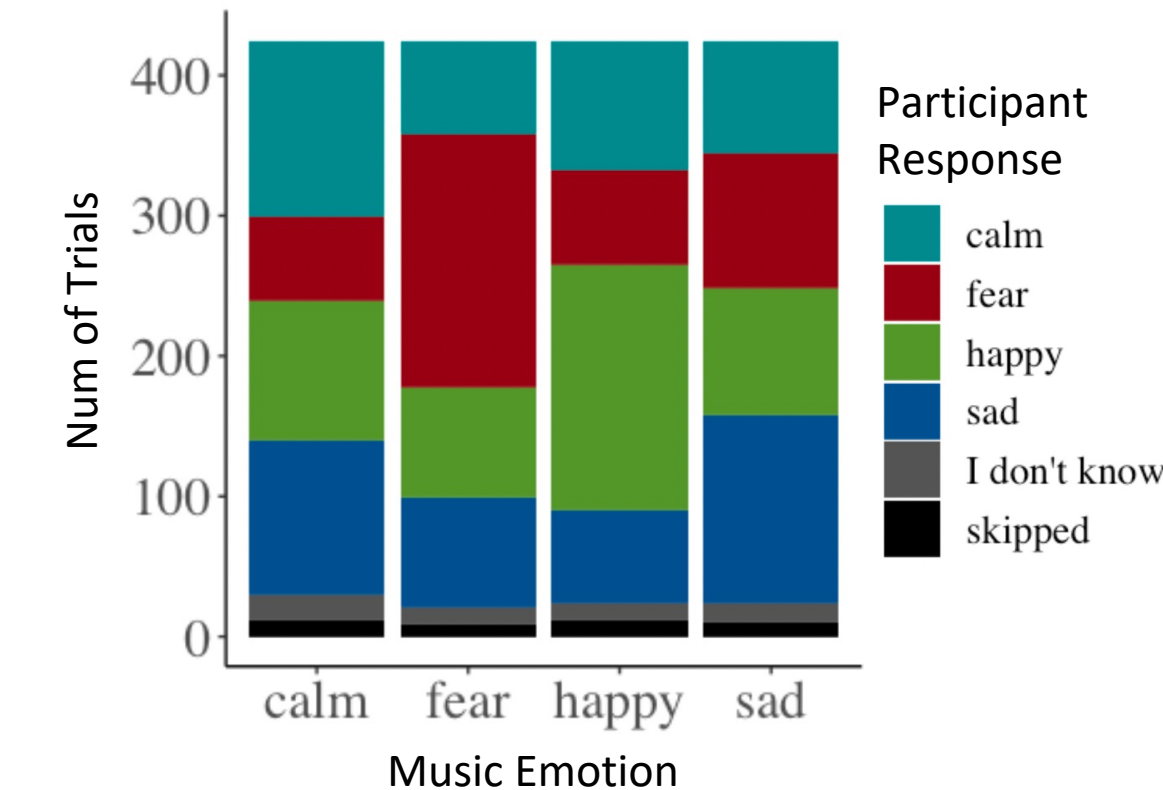
## Music is a novel method to determine child emotion recognition capabilities



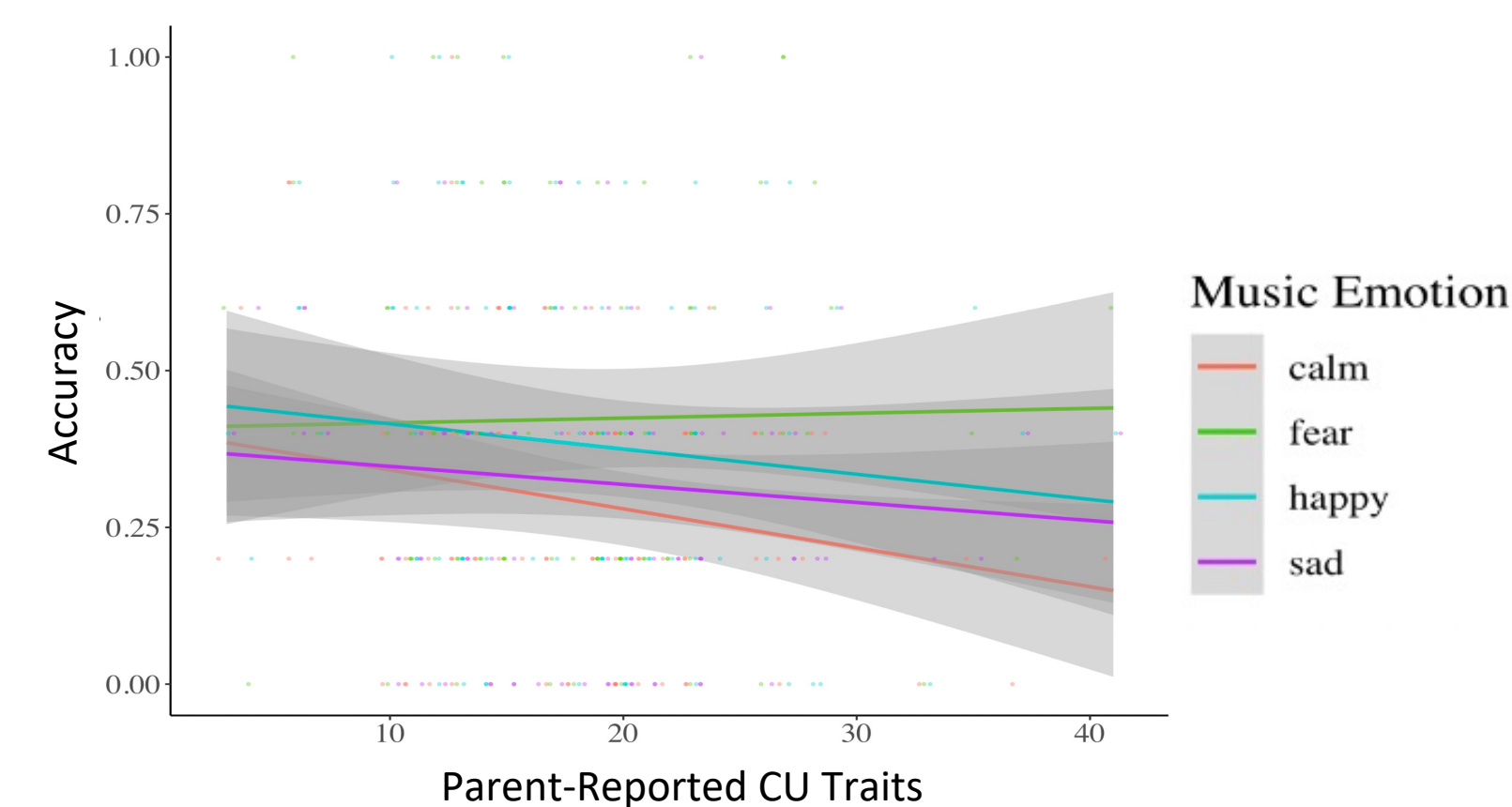
## Results



**3–5-year-old children accurately identified *fear, happy, and sad* music but *NOT calm*.**



**Children improve in identifying *fear, happy, and sad* music with age**



**Higher CU traits are not associated with change in accuracy in any emotion type**

## Methods

Child (Mage=4.56 years, n = 85) listened to 20 instrumental music clips, each 5 seconds long. There were 5 clips each for calm, fear, happy, and sad. Child selected the emotion that they believed the music portrayed. Parents completed questionnaires about child CU traits.

## Conclusion and Next Steps

This study opens the door to using music for identifying children's emotion recognition capabilities. One limitation at this point in time is that data is still being collected, so results may vary as the sample size increases. In addition, CU traits may not be fully identifiable in 3-5-year-olds. Therefore, it is crucial to explore precursor behaviors (e.g., affiliative reward and threat sensitivity) that predict the development of CU traits and are more prevalent within this age range.

## References

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