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## Introduction

- People dance, sing to their babies, and enjoy music all across the world (e.g., Trehub et al., 2015)
- There is individual variability in musical abilities (e.g., Kragness & Swaminathan et al., 2021; Mosing et al., 2014; Schellenberg, 2020)
- Our beliefs about abilities are related to our own actions and judgments of others
  - Feelings of control over academic success is positively related to academic success (Richardson et al., 2012)
  - Participating in an intervention focusing on enhancing beliefs about control over academic achievement resulted in higher achievement (Dryden et al., 2021)
- Past research has focused on three categories of explanation: genetics, environment, and personal choice (Meyer et al., 2020; Jayaratne et al., 2009)

## What do children and adults believe about musical attributes and where they come from?

## Methods

### Participants

- **University undergraduates (N = 83)**
  - Received Intro Psych class credit
  - Responded online at their convenience (Qualtrics Survey)
- **7- to 8-year-old children (N = 48)**
  - Received \$5 gift card for participating through Lookit (lookit.mit.edu)
  - Tested by experimenter in an online appointment

### Materials

- Participants were asked about musical characteristics, as well as several other comparison characteristics
- Question order was randomized in each block

Comparison	Musical
• Tall	• Singing
• Nice	• Cello
• Pizza	• Musician
• Sports	• Emotions and Music
• Soccer	• Rhythm
• Smart	• Dancing
• Reading	

### Procedure

- Questions were presented in an adult-friendly or child-friendly wording

"Person L is a very good musician. People enjoy listening when they play music. How much do you think genes has to do with being a good musician?"

"There is a person that is a good cello player. Everybody claps when they play the cello. Why do you think this person is a good cello player?"

### Open-Ended Phase

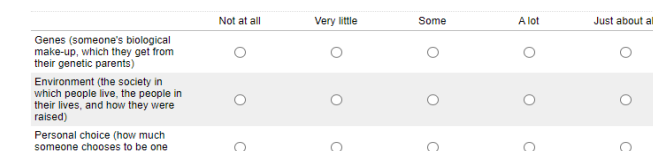
University undergraduates

- Responses typed into a text box
- Responses coded manually to report presence of genes, environment, and personal choice explanations



### Closed-Ended Phase

- Responses selected on a Likert scale and converted to numeric

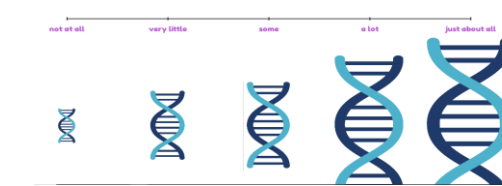


7- to 8-year-old children

- Responses given verbally and transcribed
- Responses coded manually to report presence of genes, environment, and personal choice explanations



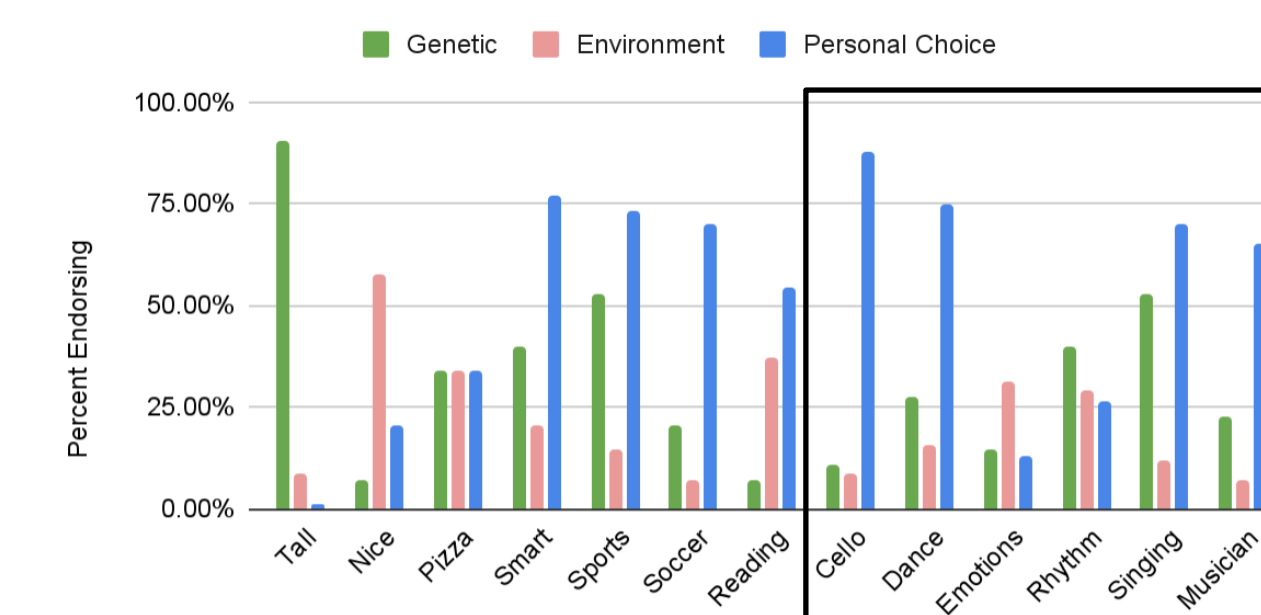
- Responses selected on a child-friendly scale and converted to numeric



## Results

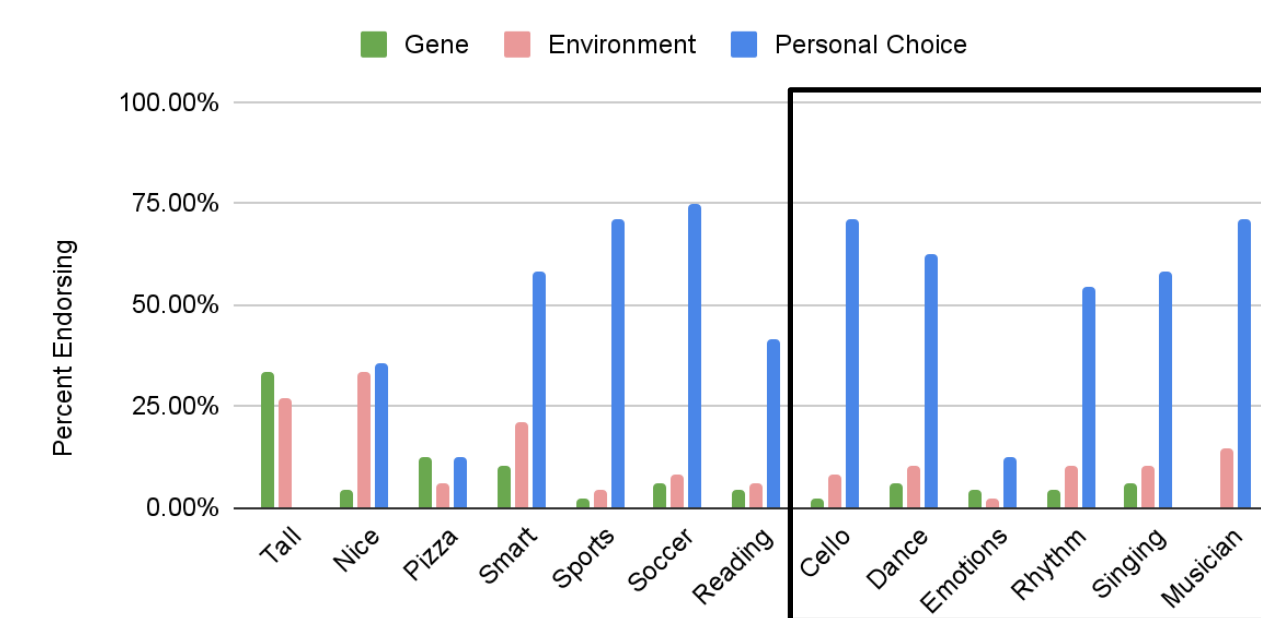
### Open-Ended Responses

University undergraduates



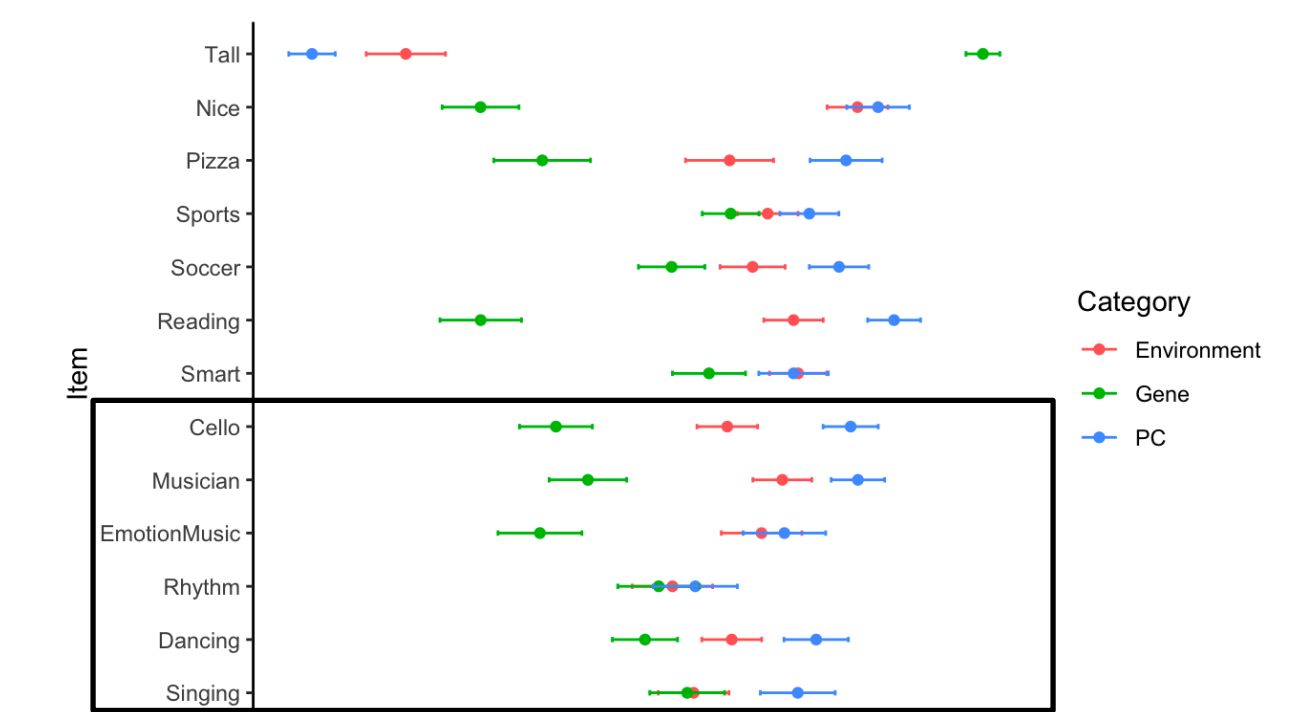
Adults primarily mentioned personal choice explanations, but attributed "a sense of rhythm" and "being a good singer" to genetic explanations. "Feeling emotions to music" was thought to have environmental origins.

7- to 8-year-old children

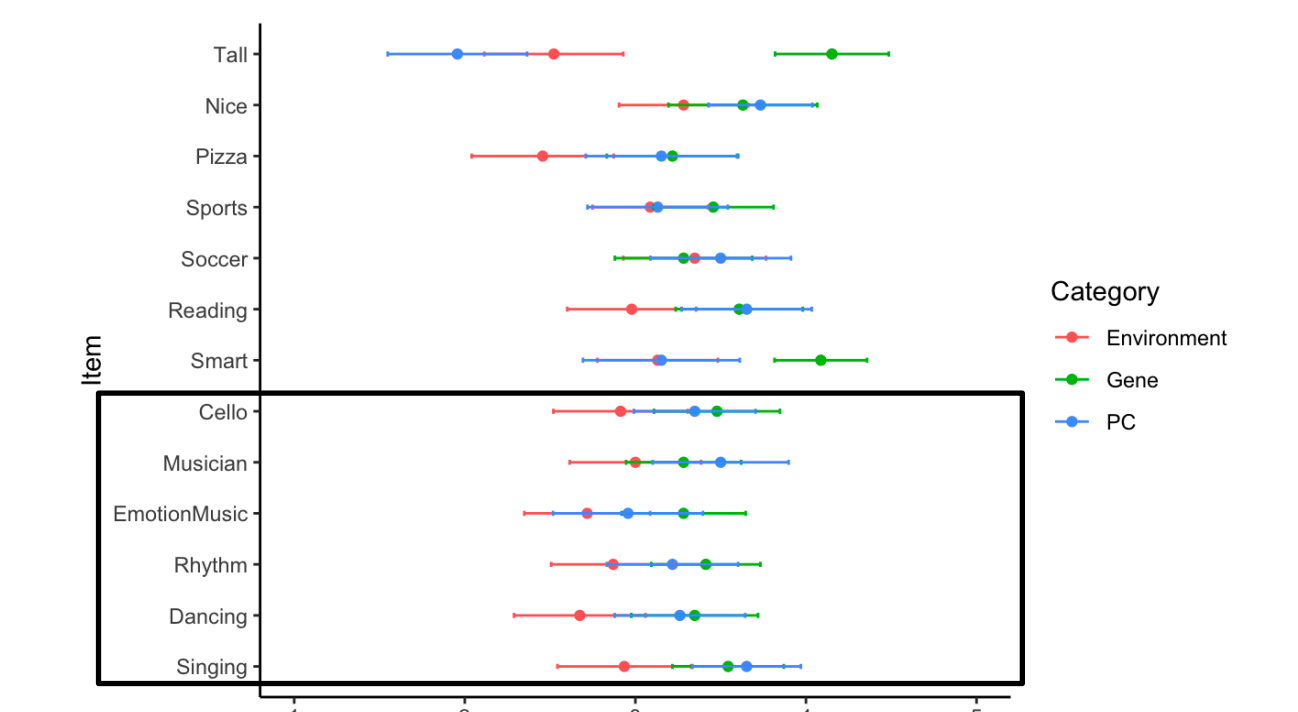


For children, personal choice was most frequently mentioned for all musical characteristics.

### Closed-Ended Responses



Adults rated personal choice as the most important factor for all musical characteristics, and rated genetic explanations as the least important factor for all musical characteristics. However, again, genetics was rated as more important for singing and rhythm than other musical characteristics.



Children consistently rated environmental factors as the least important for musical characteristics compared to genetic and personal choice factors.

## Discussion

- By adulthood, people consistently cite personal choice as an important factor for most musical characteristics
  - Across open- and closed-ended responses
  - Notable exceptions: "having a good sense of rhythm" and "feeling emotional in response to music"
- Children spontaneously mentioned personal choice as most important, but rated personal choice and genetics as similarly important in the closed-ended section – why?

### Future Directions

- Currently collecting a more representative sample (Prolific.com)
  - Do beliefs about musical abilities correlate with musical abilities?
- Does culture shape beliefs about musical attributes?
- What do people believe about their own personal musical abilities?