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## Tempo Perception Across Cultures: The Beat is All It Takes

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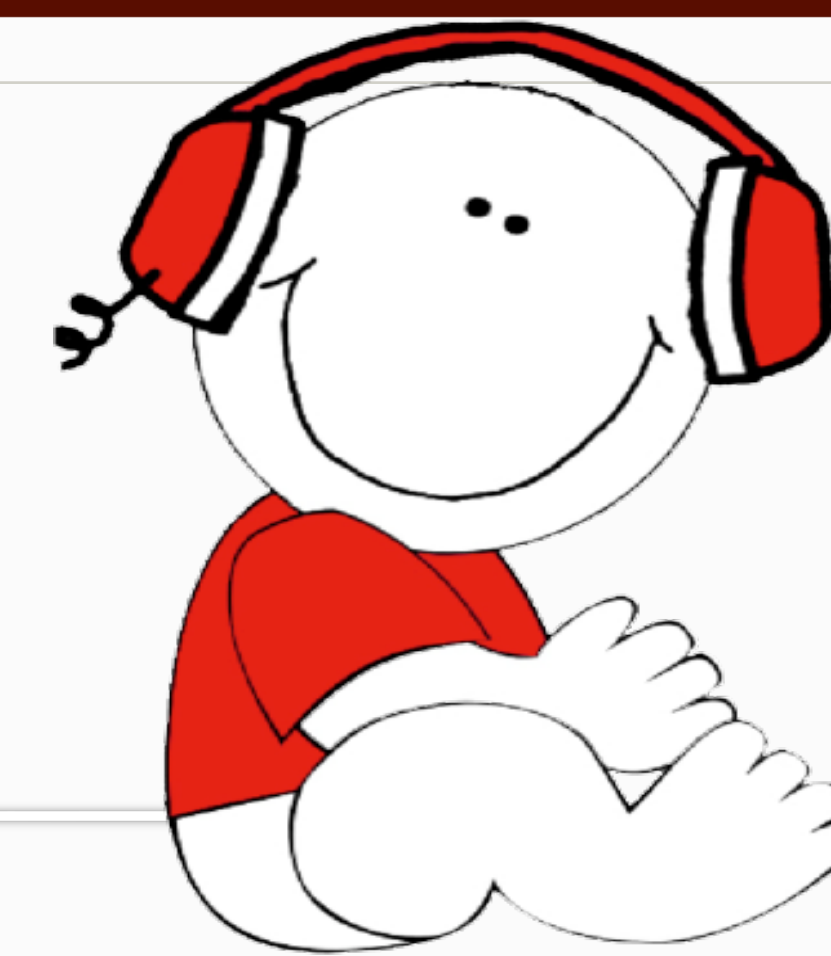
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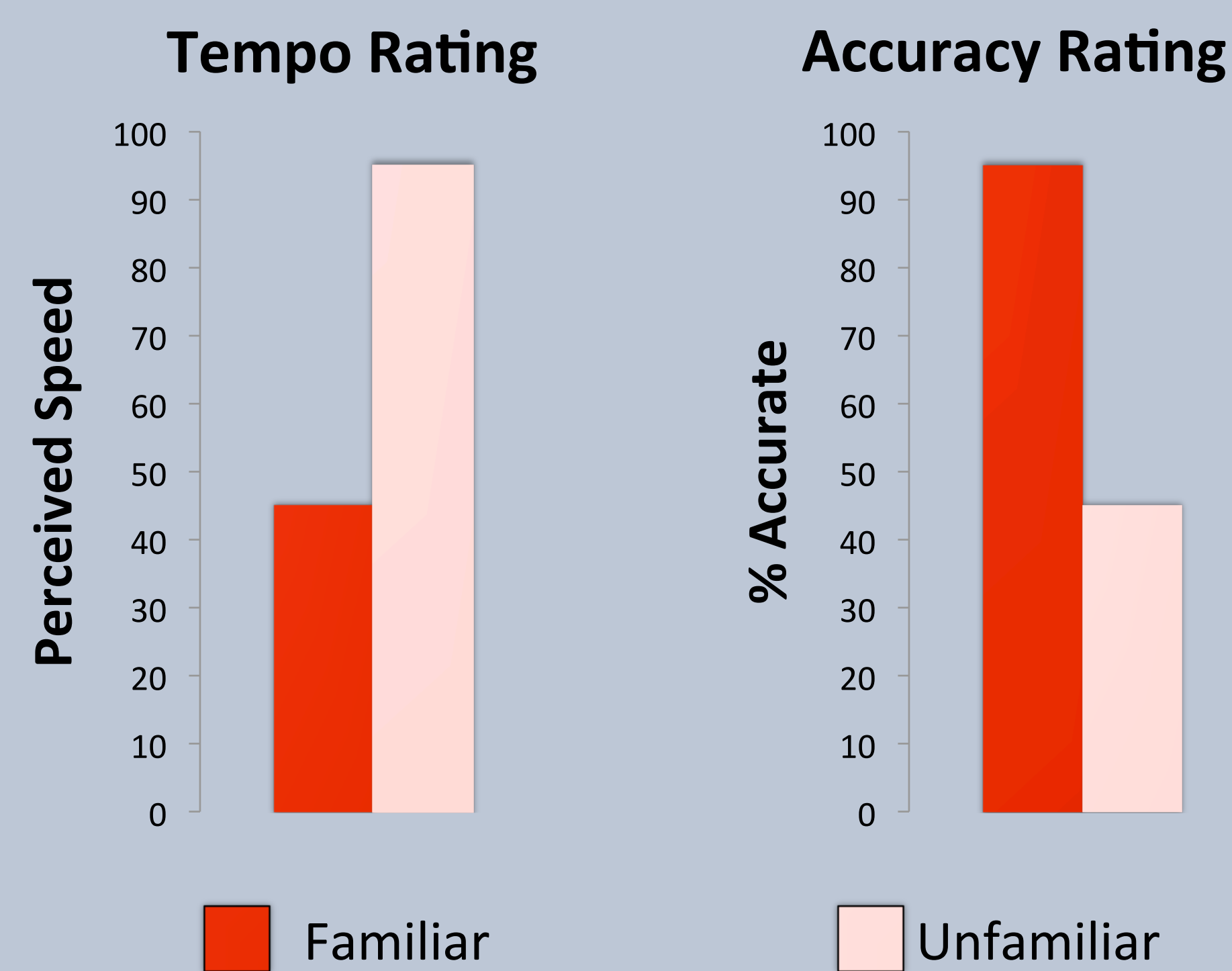
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## Introduction

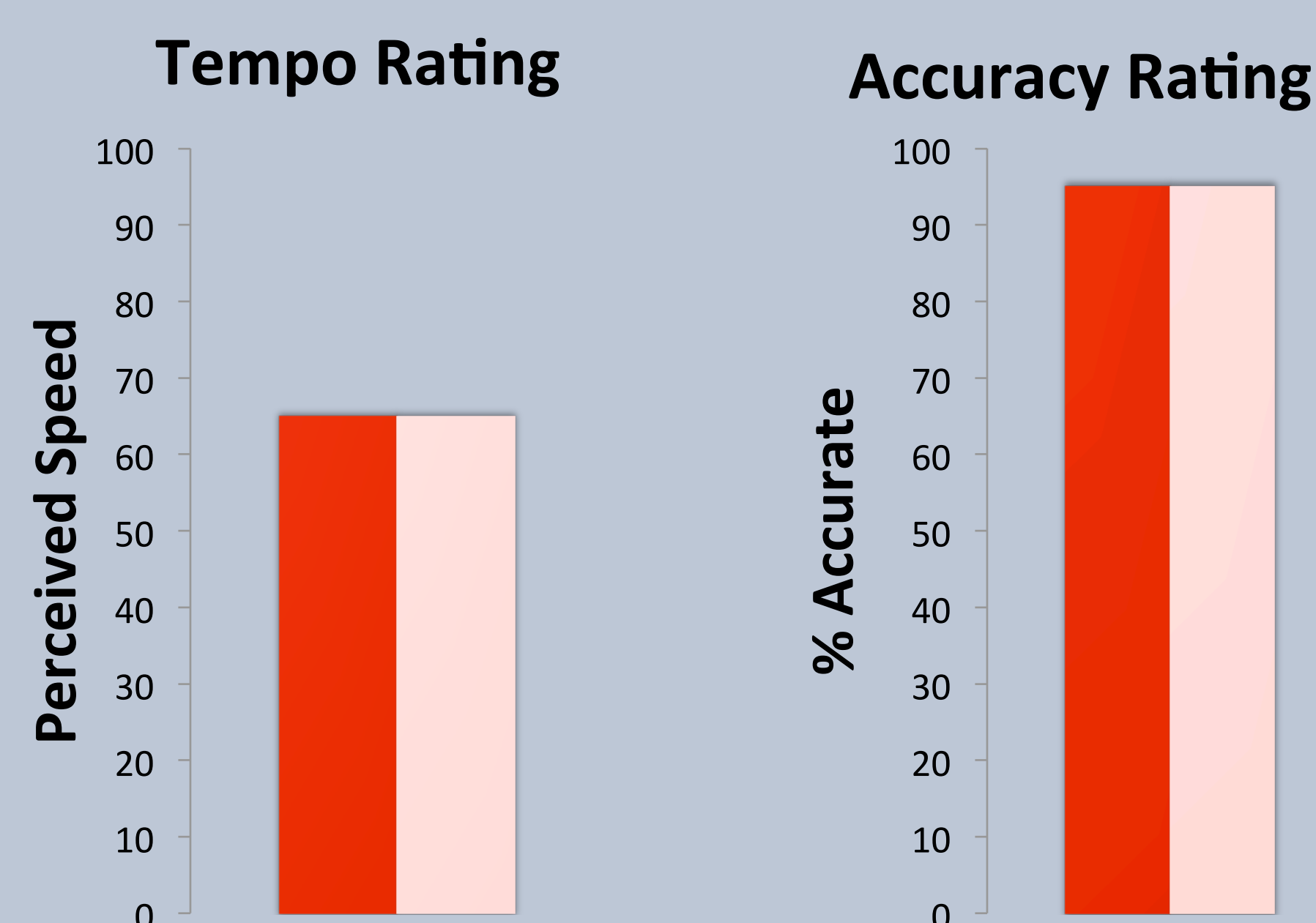
- Dancing to music is a human universal that relies on beat perception.
- Listeners may infer the “tempo” or speed of music from:
  - the time interval between beats;
  - the density of events;
  - higher-level features of musical temporal organization (the meter).<sup>2</sup>
- The “Gabbling Foreigner Illusion”<sup>3</sup> is the observation that listeners perceive unfamiliar languages as being faster than familiar ones.
- Even when music is the same speed, listeners tap faster to unfamiliar music.<sup>1</sup>
- Does culture background influence how we perceive musical tempo?

## Possible Results

### Prediction 1



### Prediction 2



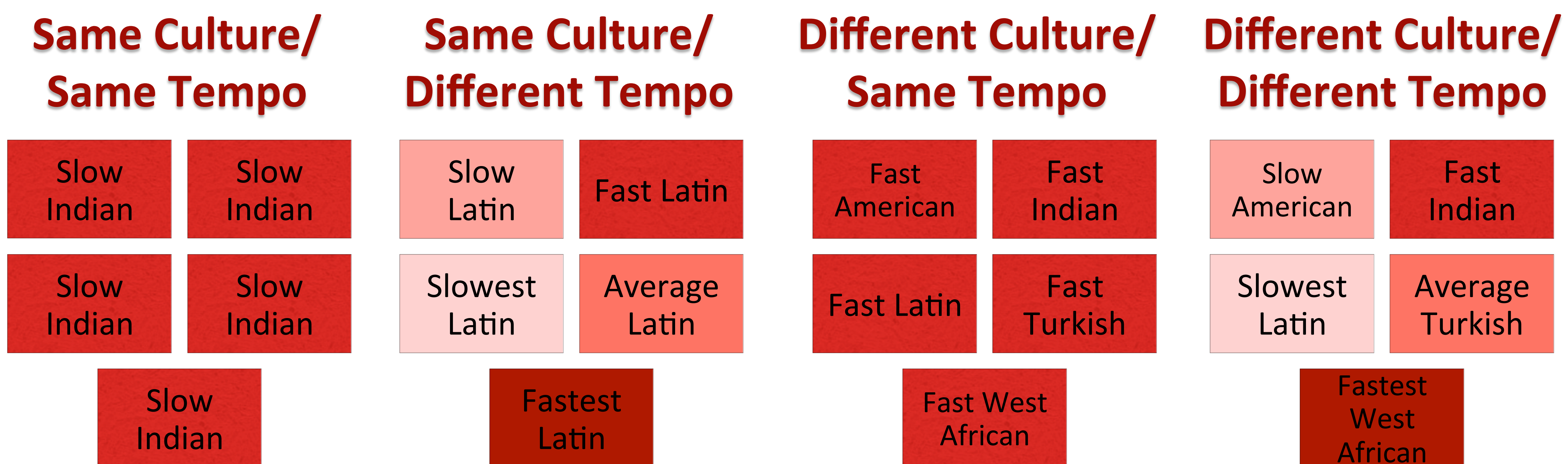
## Methods

### Participants

- 200 participants with normal hearing
- 40 from each cultural background:
  - American, Indian, Latin, Turkish, West African
- 18+ years old

### Stimuli

- Traditional, Popular, Dance Music
- American, Indian, Latin, Turkish, West African (Nigeria, Senegal, Ivory Coast)
- 10s clips
- Tempo ranges from slowest to fastest (80-140 beats per minute)



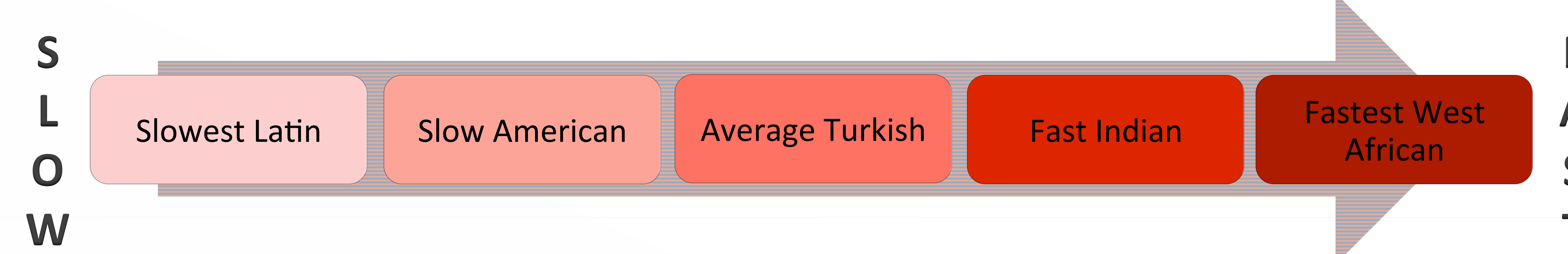
## Procedure

Participants will rate music clips on a continuum from slowest to fastest

Example 1: Familiarity affects perceived speed



Example 2: Familiarity does not affect perceived speed



## Significance

1. First systematic cross-cultural, comparative study of perceived speed of music.
2. Can we use music to enhance our skills when learning a foreign language?
3. Can musical understanding influence how we interact with people from other cultures?

## Future Directions

- ✦ Will results replicate if music contains lyrics?
- ✦ Do bilingual participants perform any differently than monolinguals?
- ✦ If participant cultures perform better than others, why?
  - ✦ What musical qualities are they exposed to that participants from other cultural backgrounds are not?

## References

1. Drake, C., & El Heni, J. B. (2003). Synchronizing with music: Intercultural differences. *Annals of the New York Academy of Sciences*, 999(1), 429-437.
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3. Roach, P. (1998). Myth 18: Some languages are spoken more quickly than others. In: L. Bauer, & P. Trudgill, (Eds.), *Language Myths* (150-158). London: Penguin.

## Special Thanks

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