

How the Amplitude of Sound Affects Memory in a Virtual Escape Room

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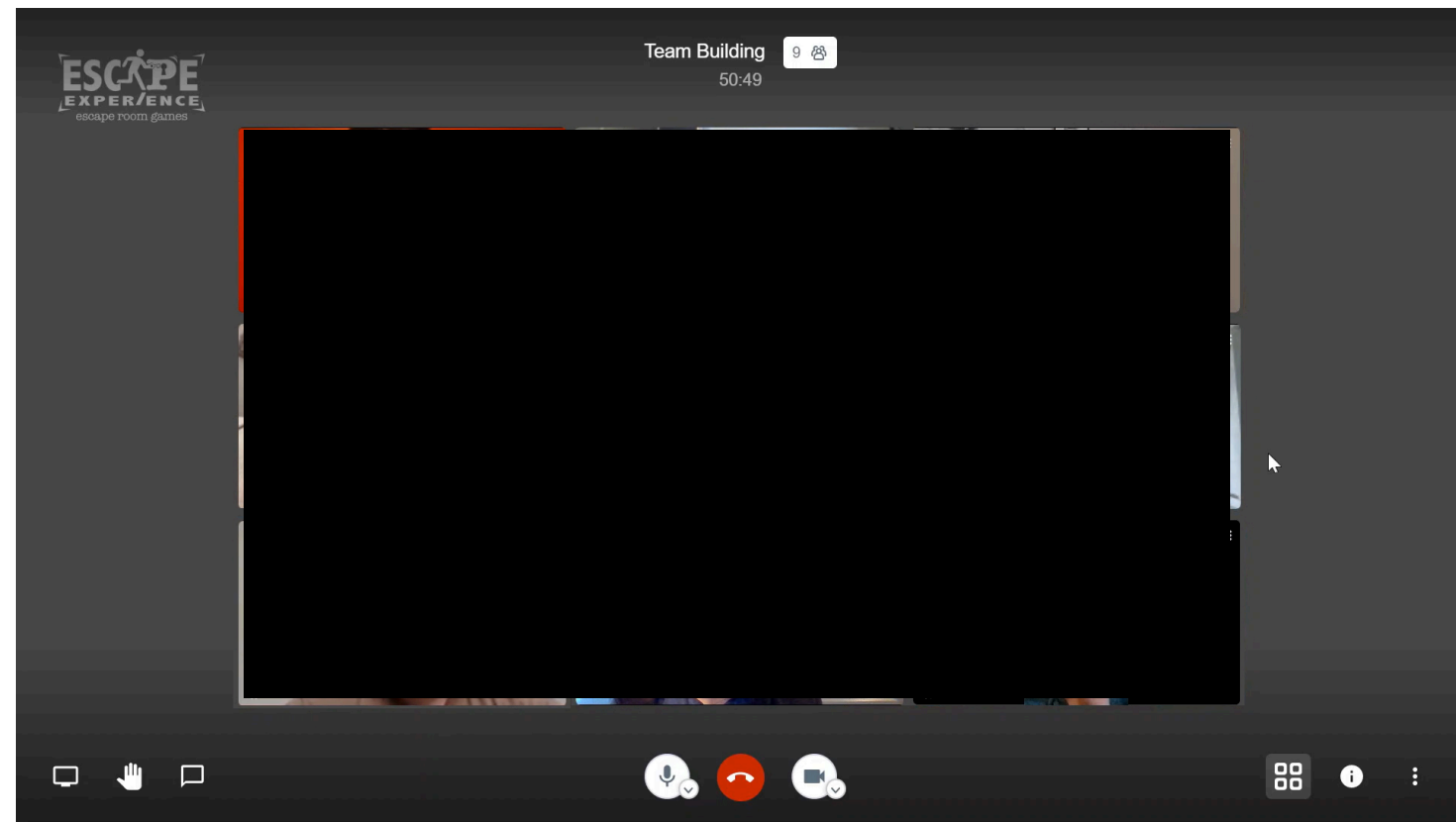


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- Sound is essential to life as we know it - playing a crucial role in everyone's life, whether for learning or entertainment, potentially influencing our memory
- **Does the loudness of sounds improve or harm memory?**

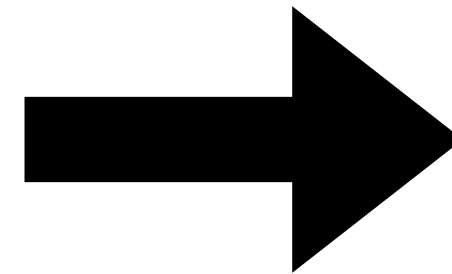
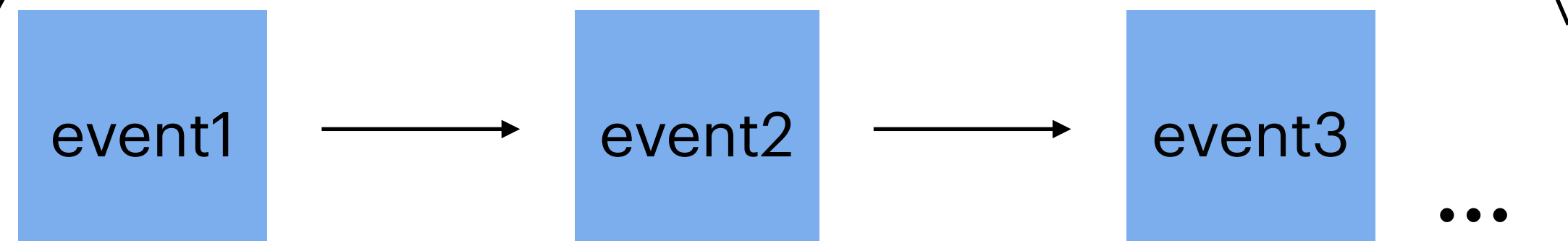
Procedure Schematic

Participants: Groups of 5, 30
Groups total (9 Groups analyzed)



Virtual Game (using zoom)

Recorded screen sharing



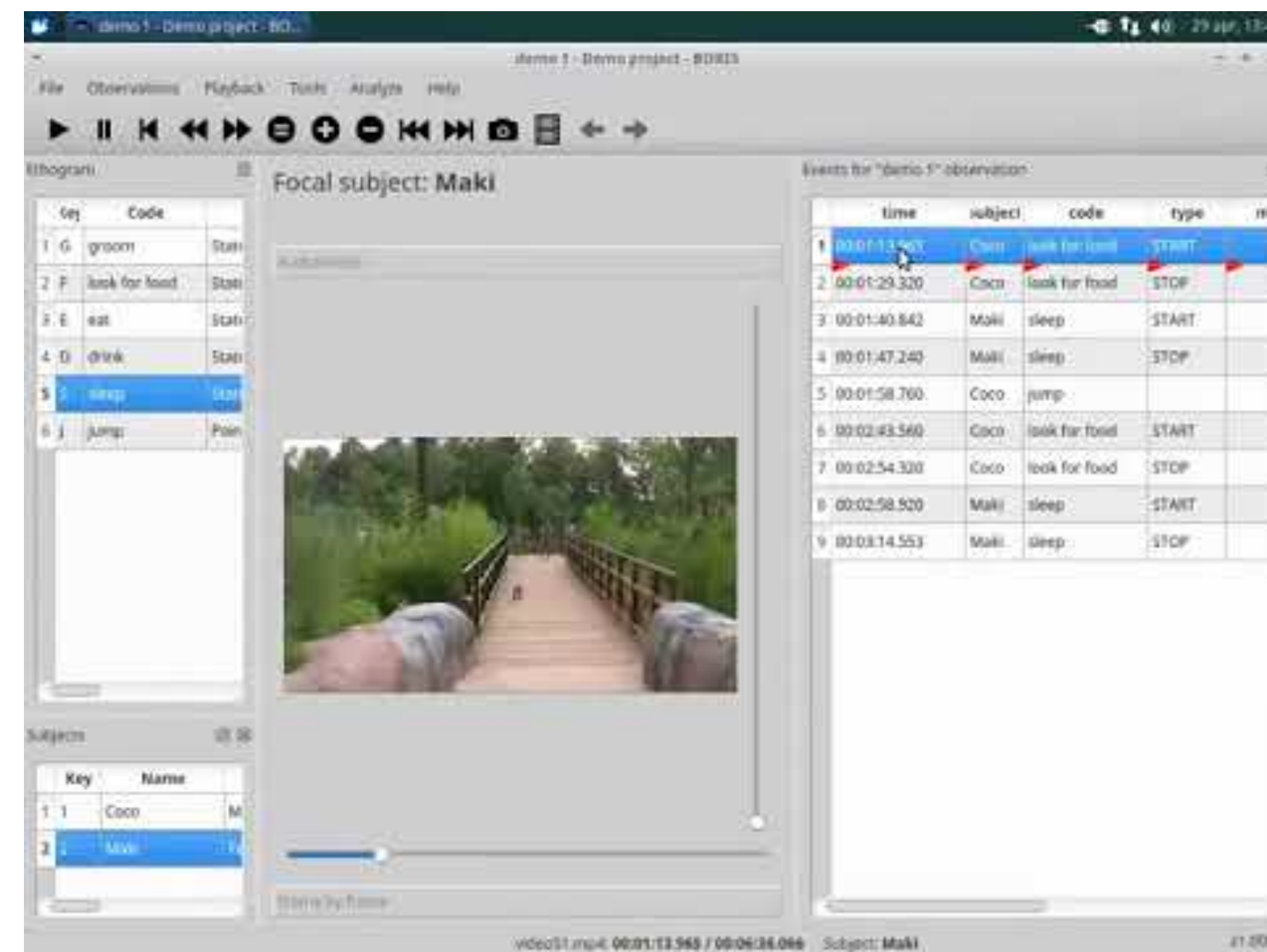
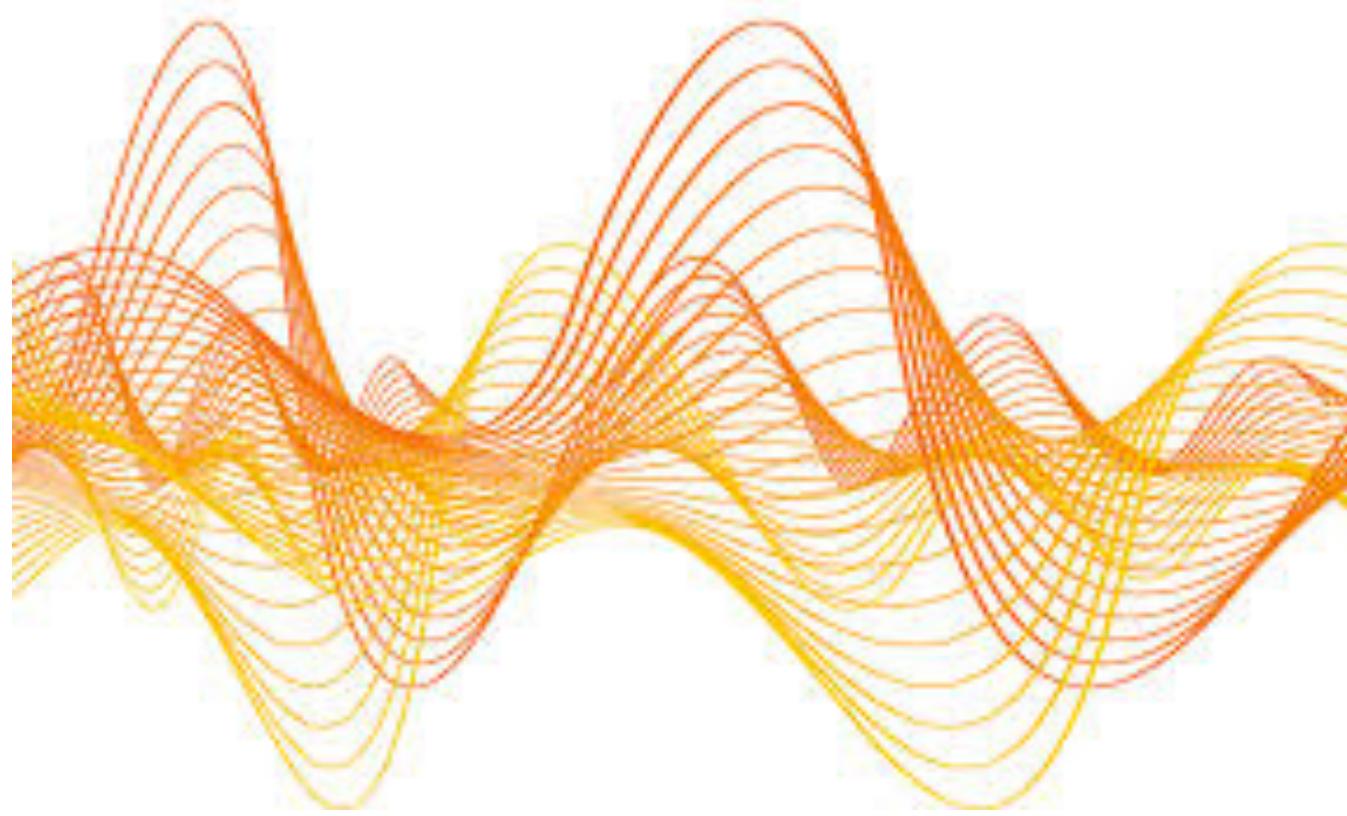
What was Hughey Neube's first job?

- A: Newspaper delivery
- B: Package delivery
- C: Milk delivery

Memory Question

Data

- Sound wave data - volume of sound within each group
- Event timing data - time points of each key event during the game
- Memory data - episodic memory associated with the key events



What was Hughey Neube's first job?

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Time(sec)

event1

event2

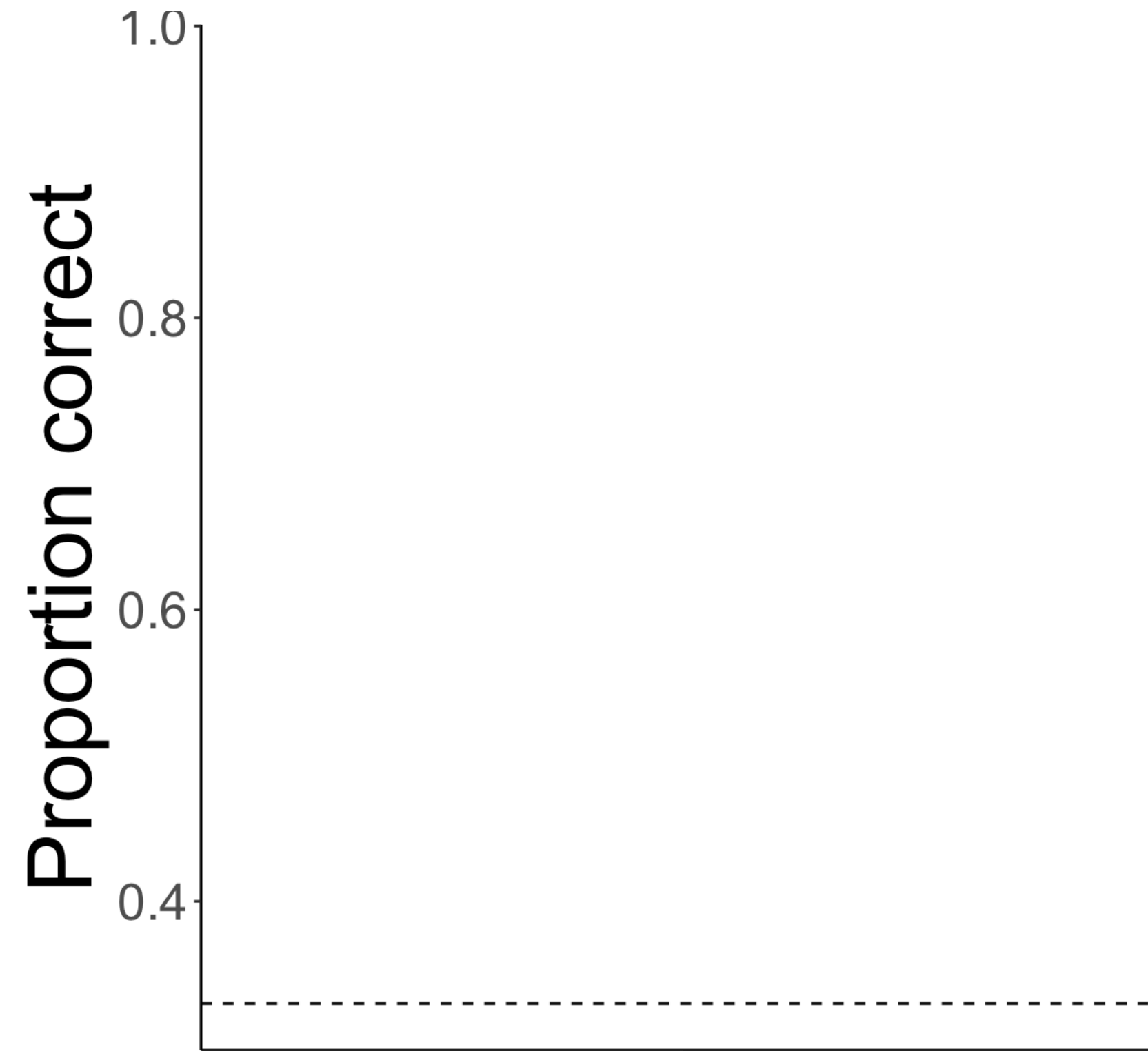
event4

event30

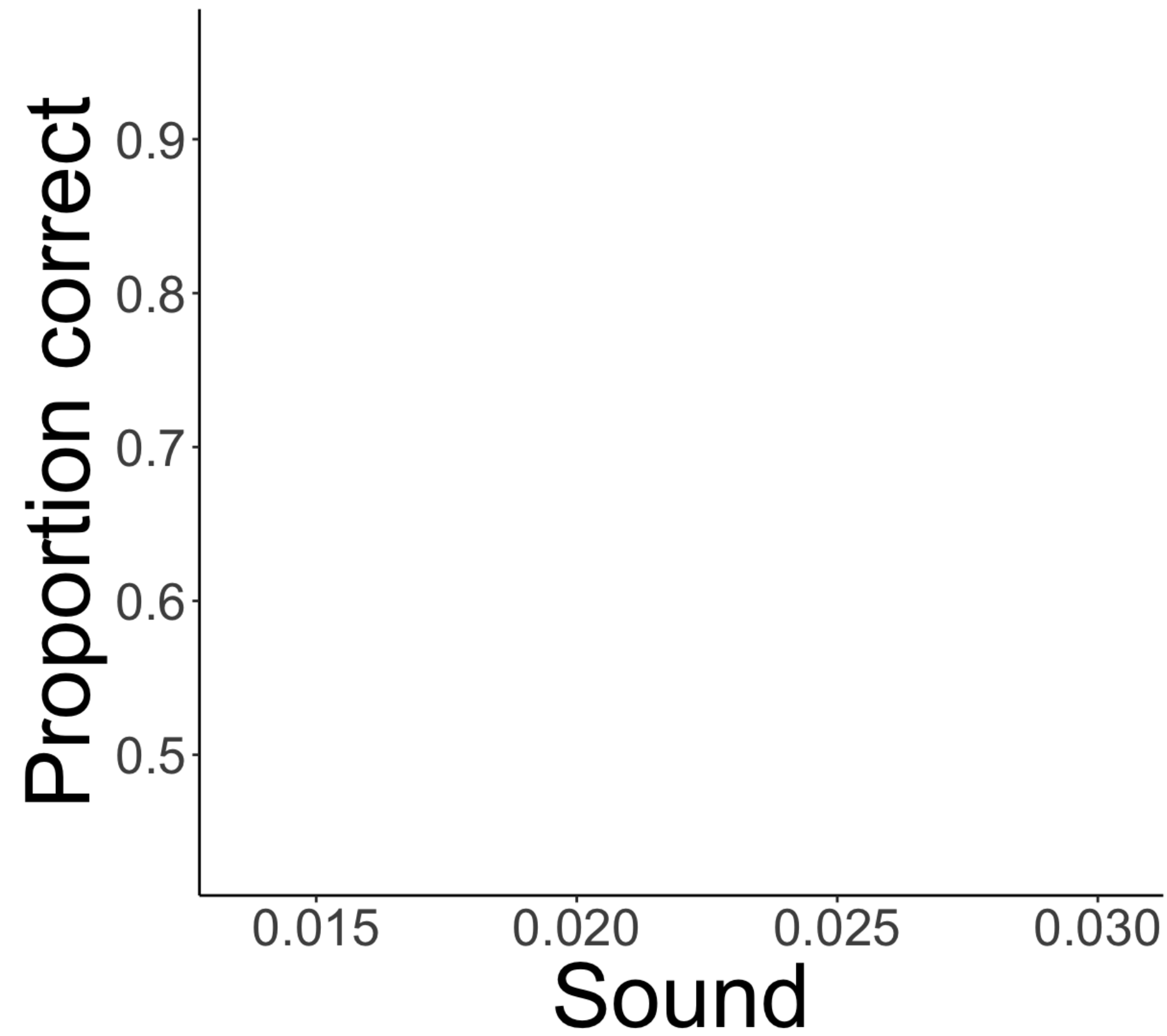
mem Q6
accuracy

mem Q17
accuracy

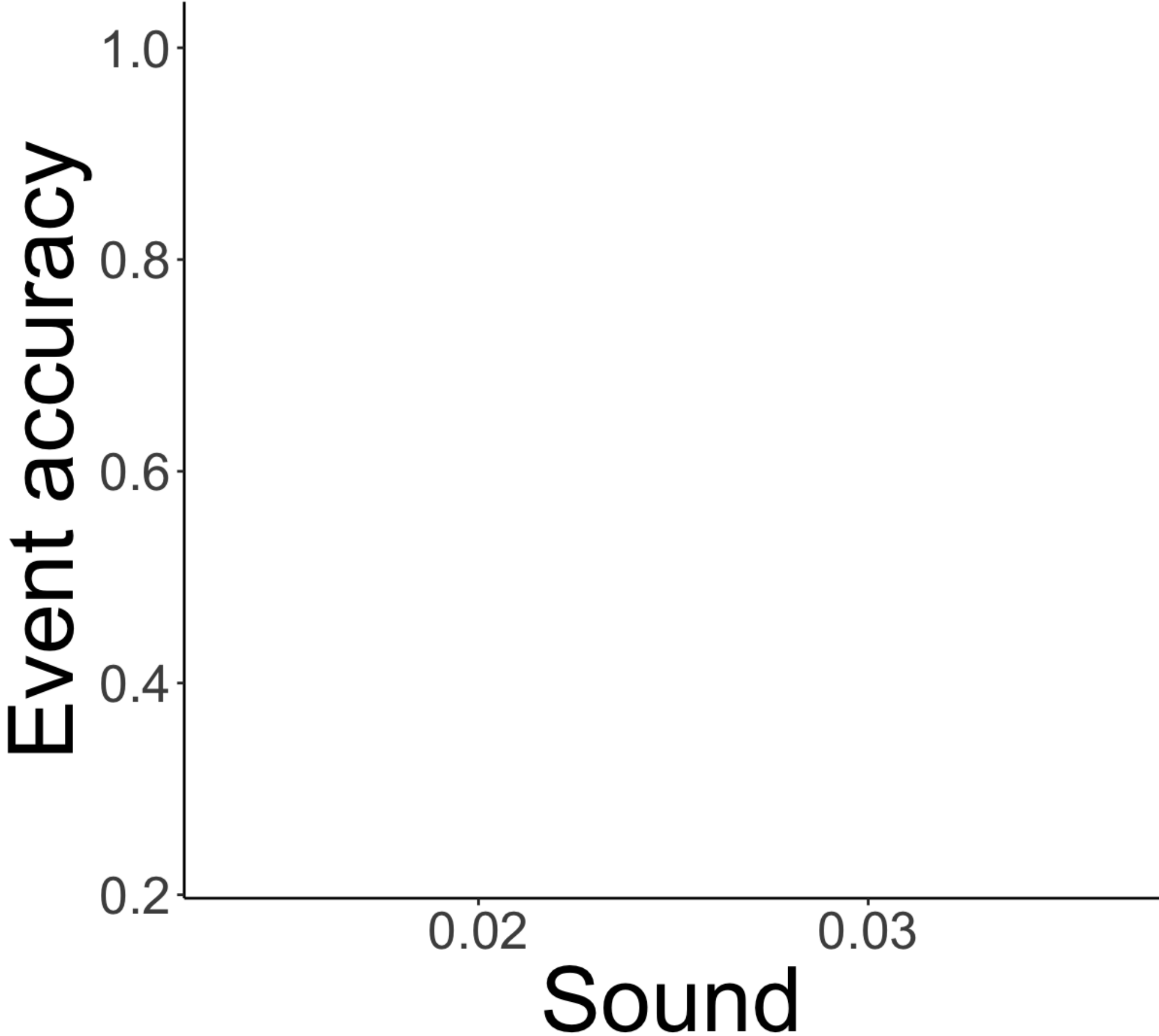
Accuracy on Memory Detail Questions



How Does Sound Affect Memory Across Participants



How Loudness Across Events Affects Memory for the Events



Summary

- Throughout the game hearing louder sounds overall is not associated with remembering more events
- People remember events better when they are associated with louder sound
 - Importance of the event
 - Salience of sound

Acknowledgments

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