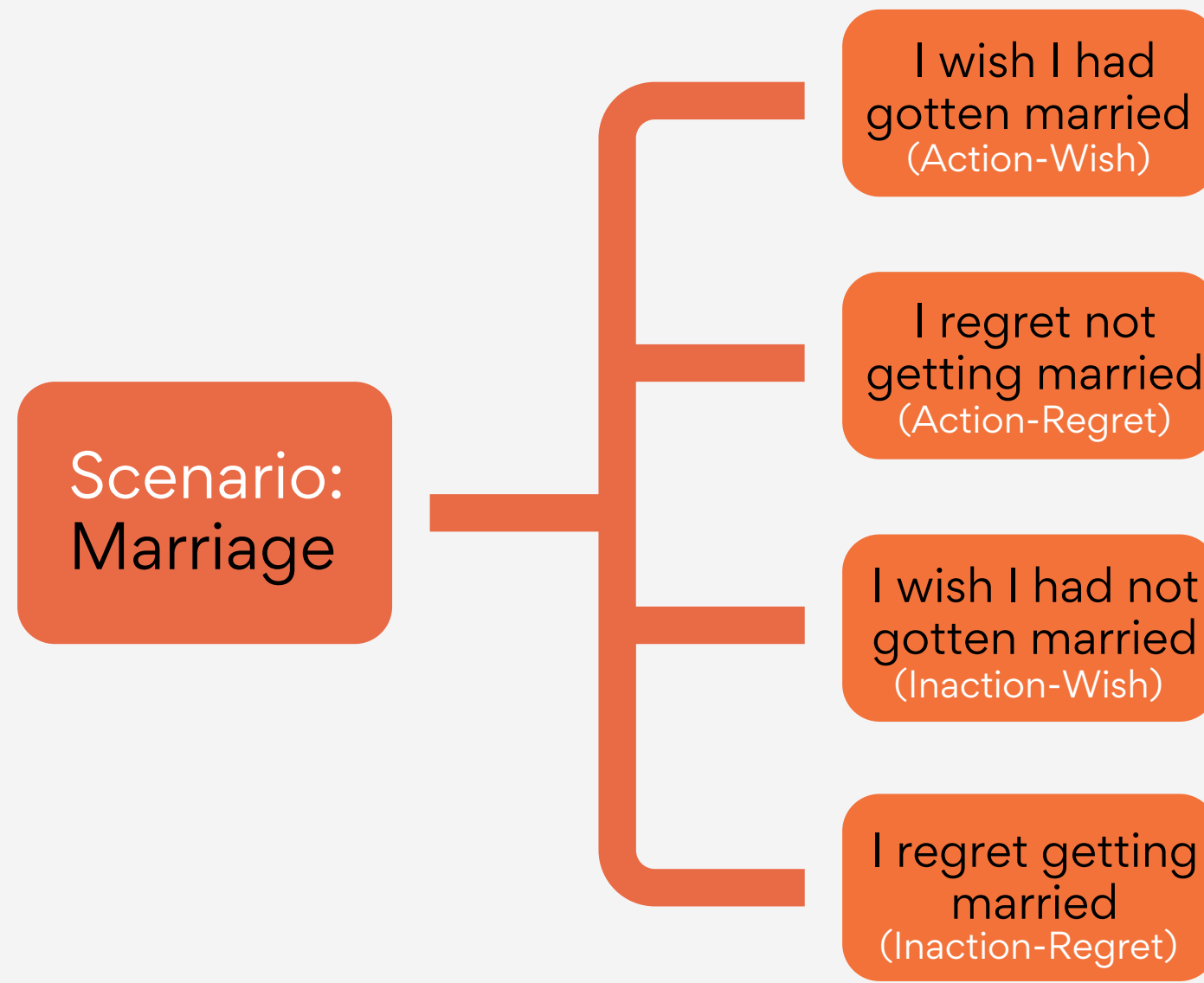
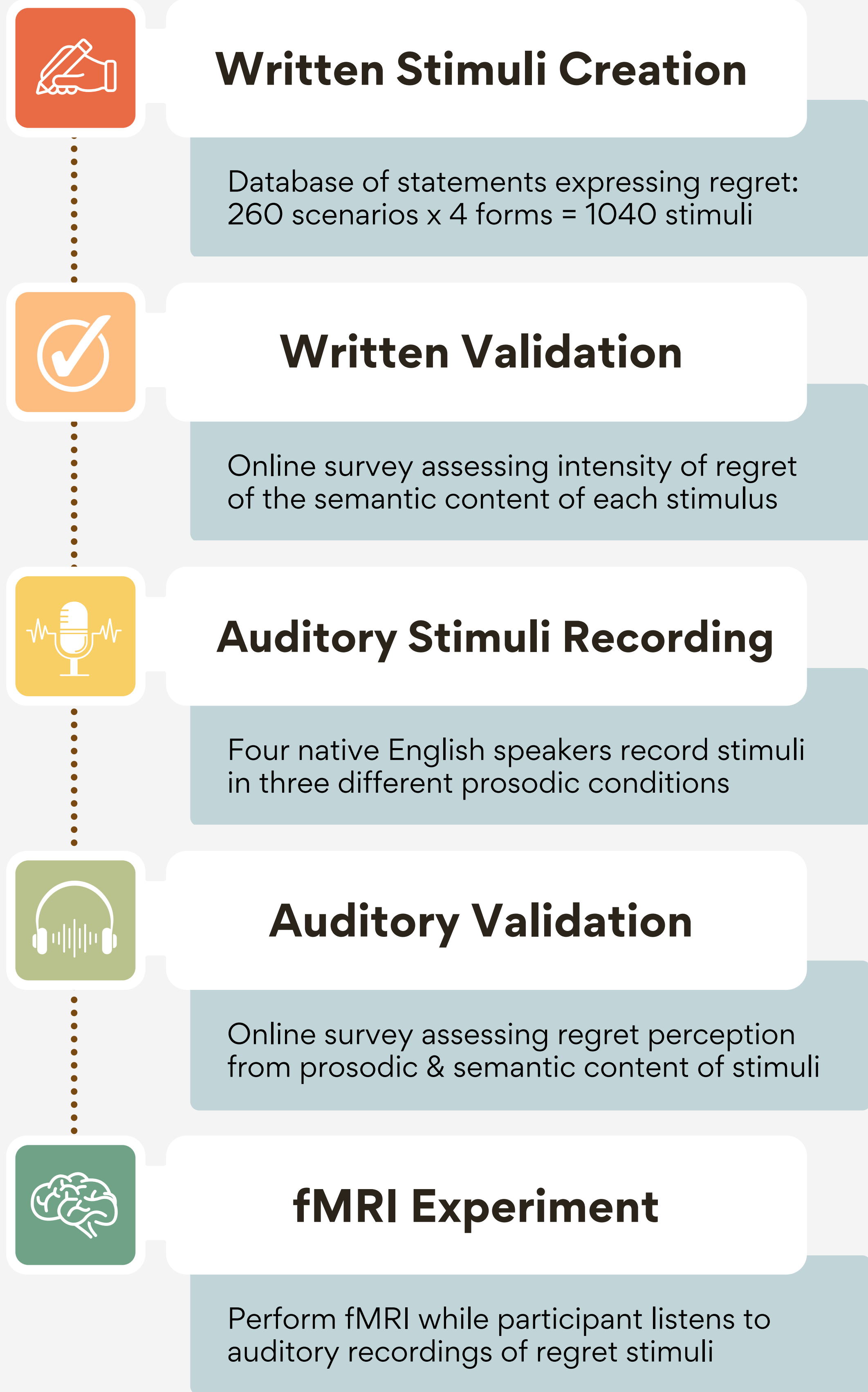


# The Sound of Regret: How Your Brain Perceives Regret in the Voice

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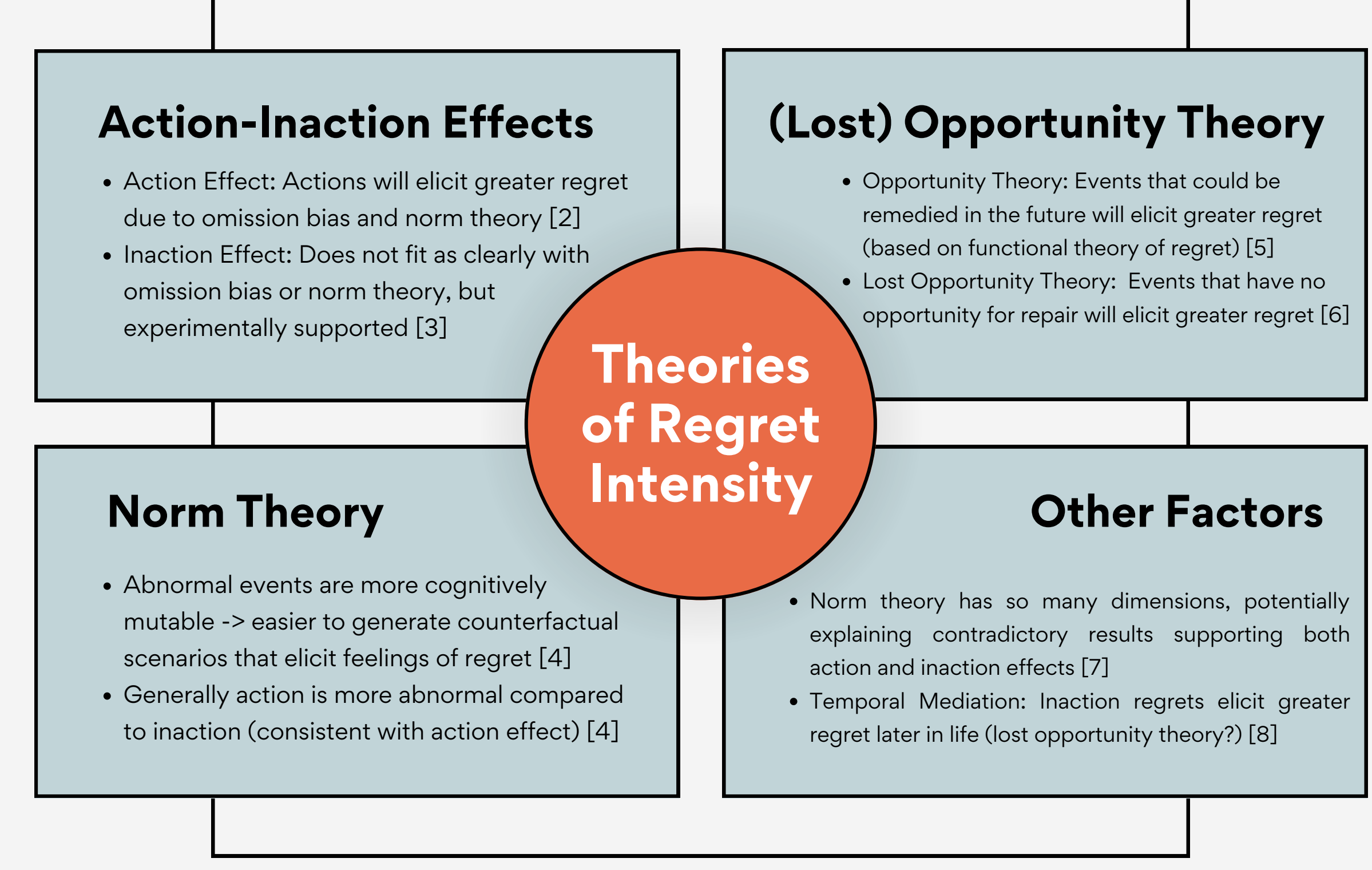
**Summary**

The emotion of regret has received much attention in psychology and neuroscience research due to its unique cognitive nature; however, few studies have looked at how we understand regret in other people, and none have considered expressions of regret in speech. This study will use fMRI to investigate how expressions of regret are processed in the listener's brain, particularly examining the role of prosody.

**KEY TERM**

what is **REGRET?**

Regret is a complex cognitively-generated negative emotion, arising from an evaluation of counterfactual realities and the causal role of one's past actions [1].



**Written Validation Procedure (Direct)**

For each statement, please imagine how you would feel in the situation.

Example: "I regret lying"

If you were in this situation, how much regret would you feel?

(Not at all) 1 - 2 - 3 - 4 - 5 (Very much)

**Auditory Validation Procedure**

How much regret do you think the speaker is experiencing?

(Not at all) 1 - 2 - 3 - 4 - 5 (Very much)

If you were in this situation, how much regret would you feel?

(Not at all) 1 - 2 - 3 - 4 - 5 (Very much)

**Examples of Recorded Stimuli**

"I wish I hadn't gotten angry" (top)

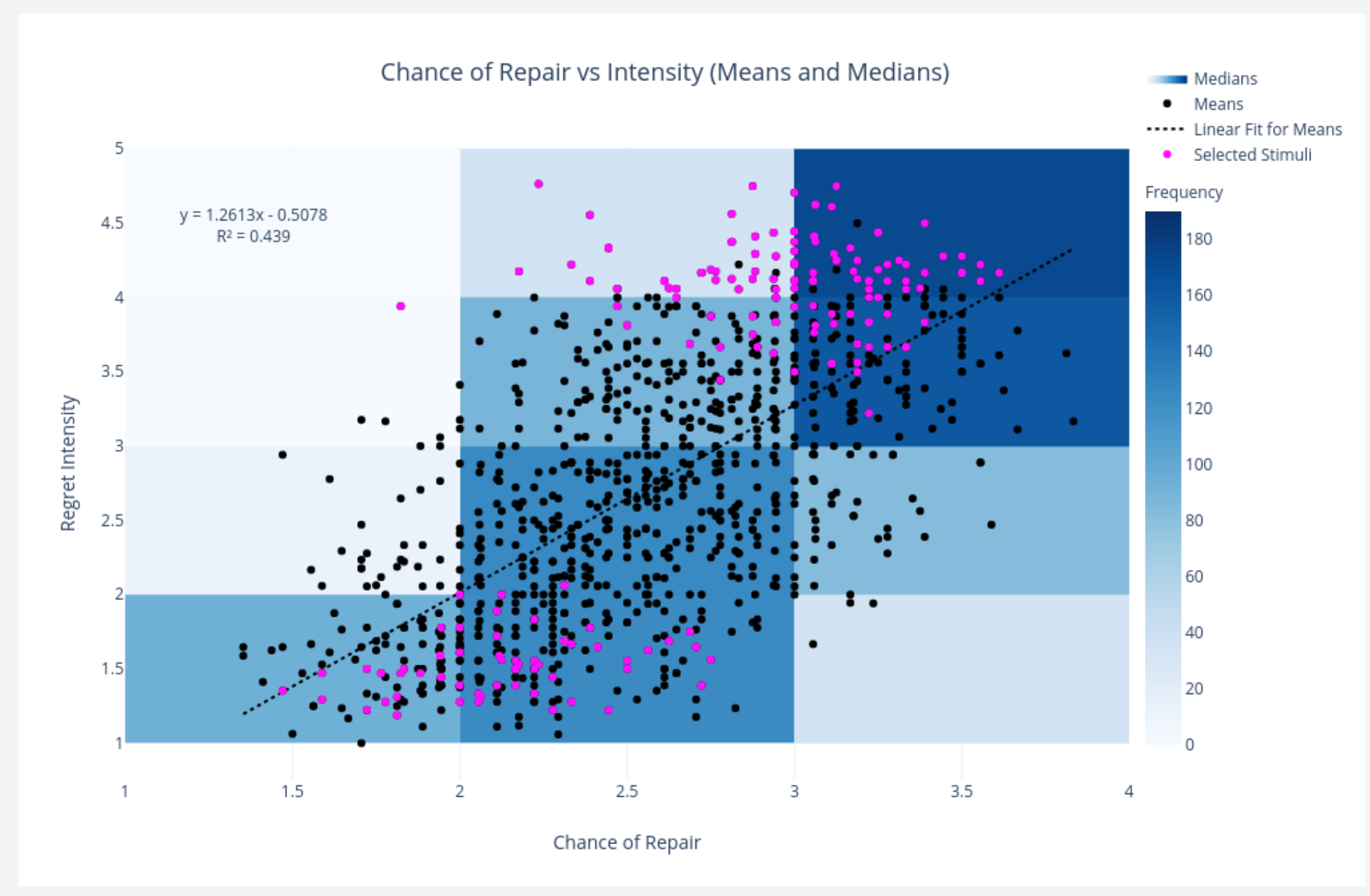
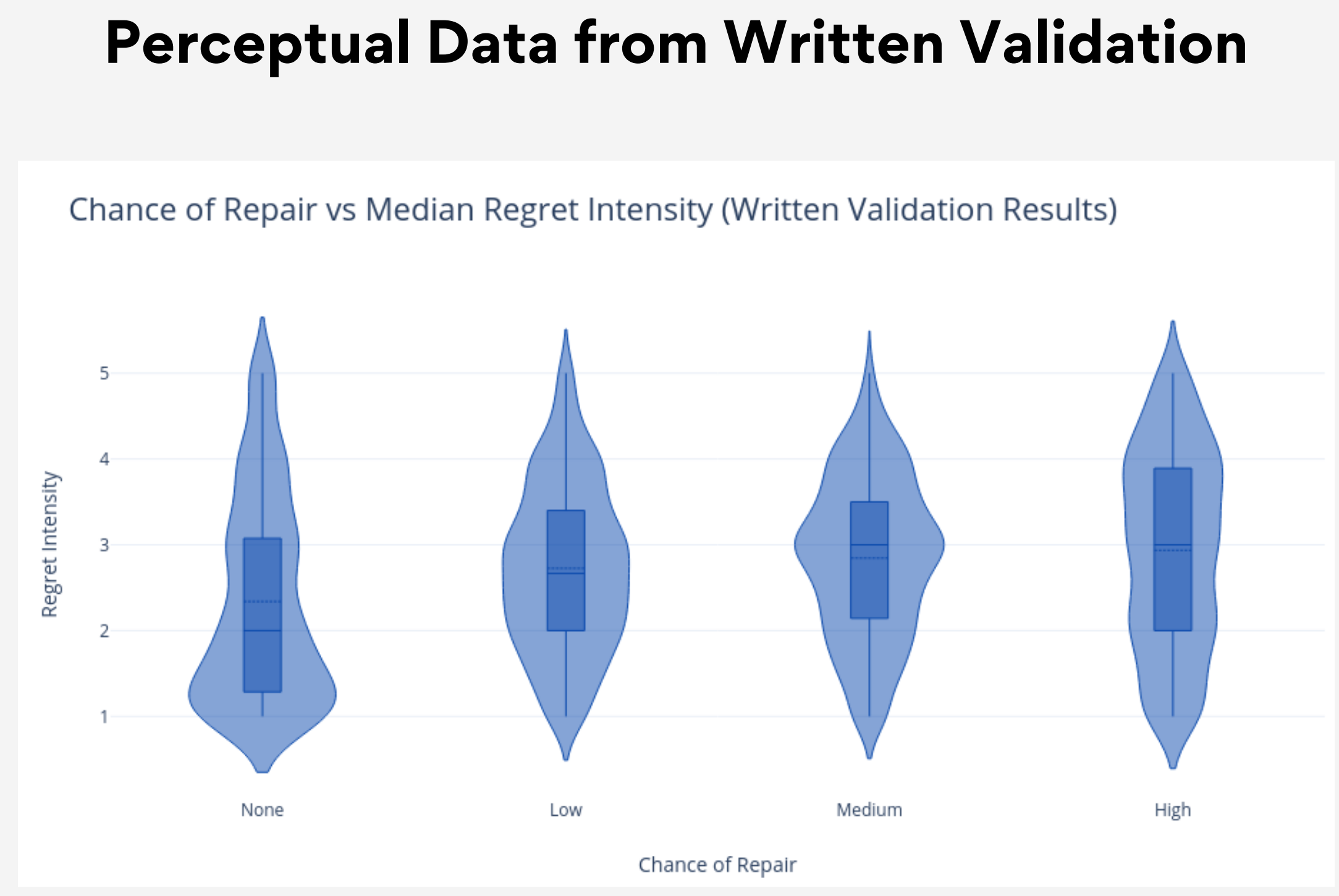
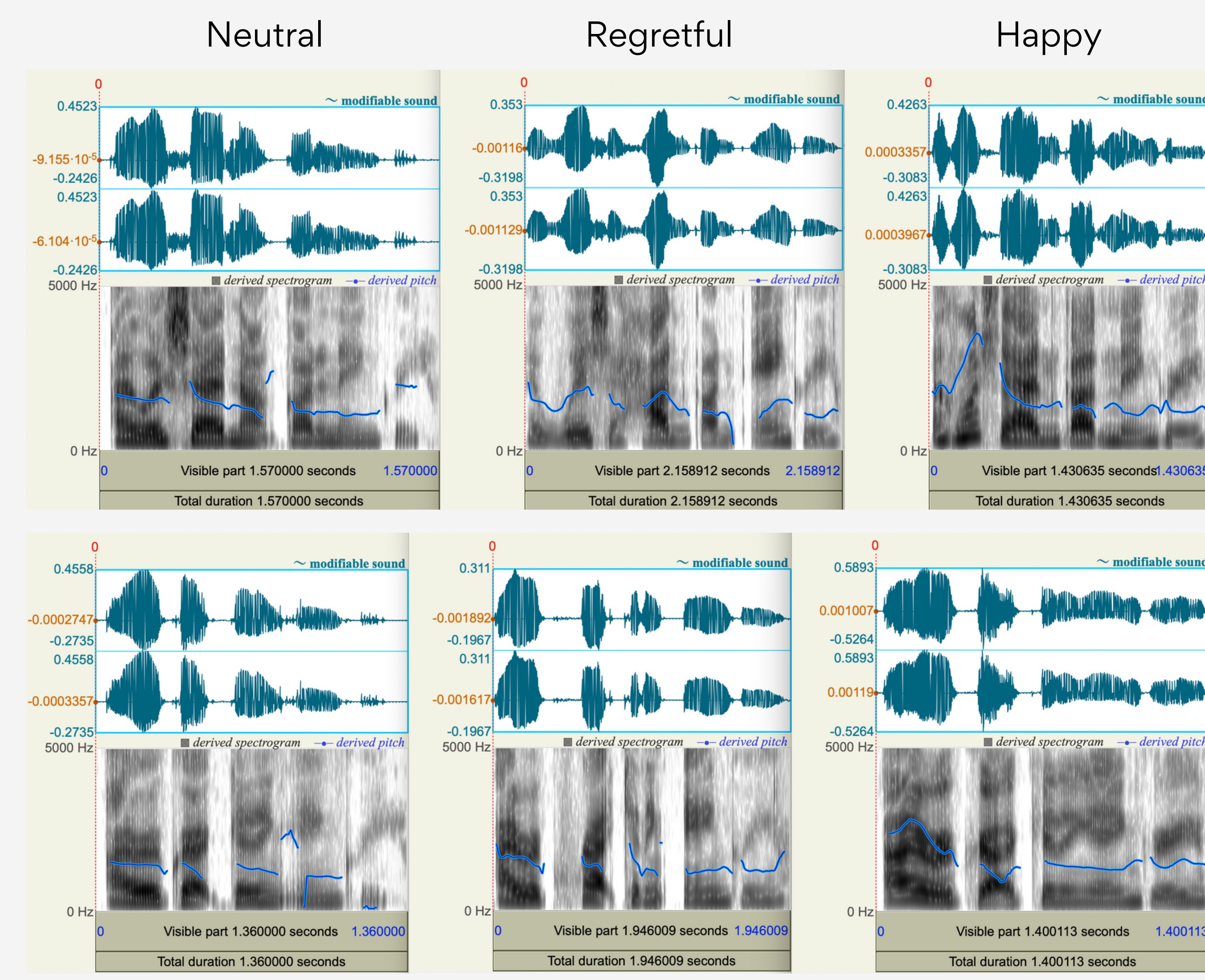
"I regret getting angry" (bottom)

**Written Validation Procedure (Indirect)**

Example: "I regret lying"

Could you repair this situation in the future? If so, what is the chance that you would repair the situation?

None - Low - Medium - High



**Hypotheses**

- Perception of the speaker's regret is expected to be visible as activity resembling personal experiences of regret (eg. vmPFC & ACC), due to empathetic mirror-resonance mechanisms [9].
- We expect this activity to be modulated by both the prosodic quality and semantic content of the stimulus, but not necessarily with equal strength.

**Applications**

We hope to expand this study to be cross-cultural in the future, so topics like in-group vs out-group regret perception can be investigated. This work is crucial for promoting cooperation and effective communication between different linguistic communities, particularly with regards to empathy and forgiveness in the types of situations that elicit regret.

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