

## Background

- We are inundated by music in our environment. This may force listeners to filter out some of it through inhibition.
- The *inhibition devaluation effect* suggests that the act of inhibition leads to an emotional devaluation.<sup>1</sup>
- To date, **no** research has examined how actively inhibiting musical stimuli may affect musical preferences
- The extent to which music influences a listener's affect depends on musical trait absorption.<sup>2</sup> A listener who is absorbed by music may have to expend more cognitive effort inhibiting responses on no-go trials.

## Research Objective

Does actively inhibiting a response associated with a musical genre influence musical preferences?

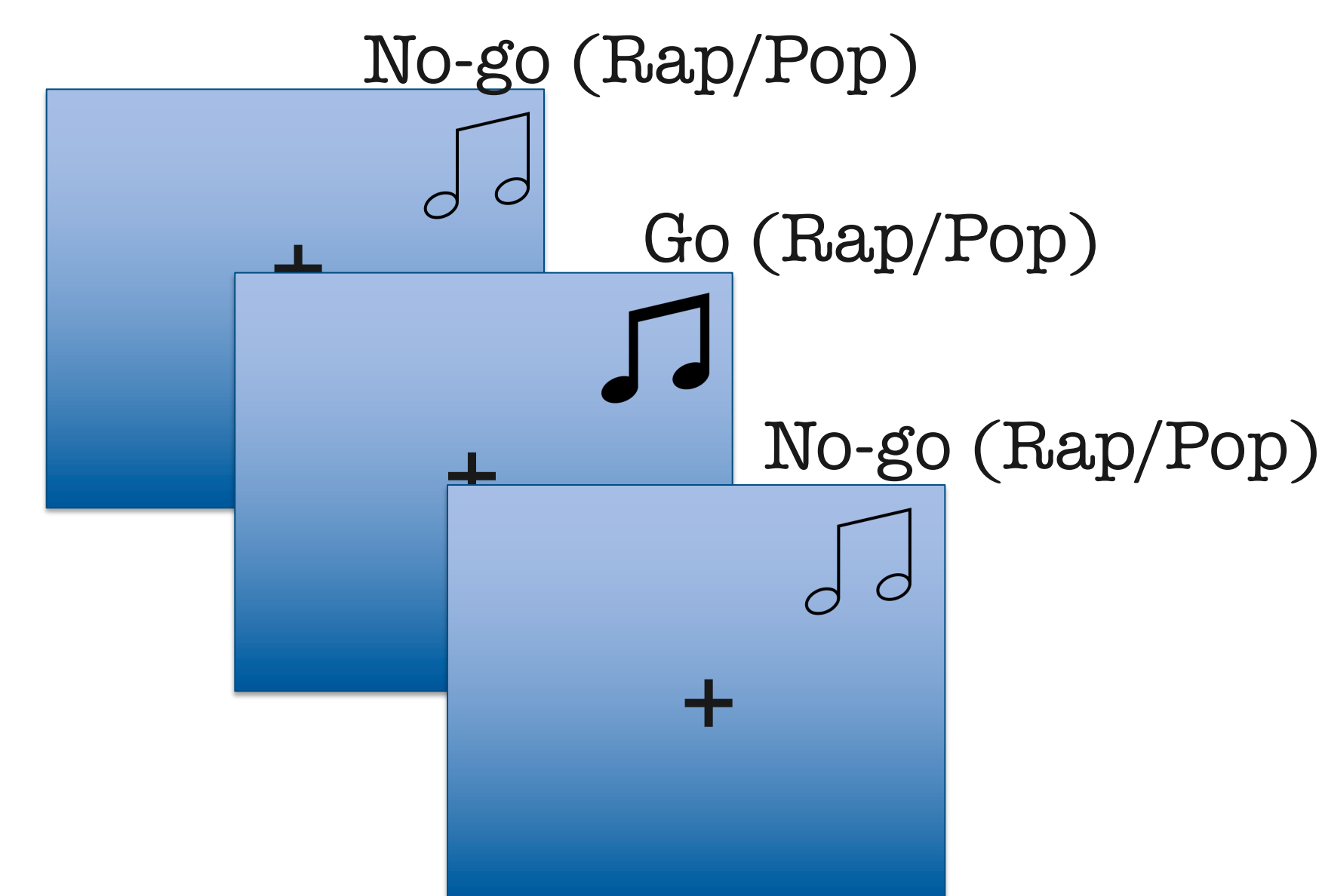
## Hypotheses

- Decrease in preference associated with inhibited genre
- No change in preference for uninhibited genre
- Interaction between inhibition and musical trait absorption

## Experimental Design

### Go/No-go task

- Baseline preference ratings



- Post preference ratings

\*Change score = Baseline - Post

### Stimuli

- 20 Pop and Rap songs
  - 6s. clips
  - All from top 40 chart

### Sample

- 58 undergraduate students
  - 47 Female, 9 Male, 0 non-binary

### Questionnaire

- Absorption in Music Scale (AIMS)
- Short Test of Musical Preferences (STOMP)
- Ten-item Personality Inventory (TIPI)

## Mixed-Effect Multiple Regressions (lmer4)

### Hierarchical Modeling

- Change Score (Intercept only)
- Change Score ~ Inhibit
- Change Score ~ Inhibit + AIM + Inhibit \* AIMS

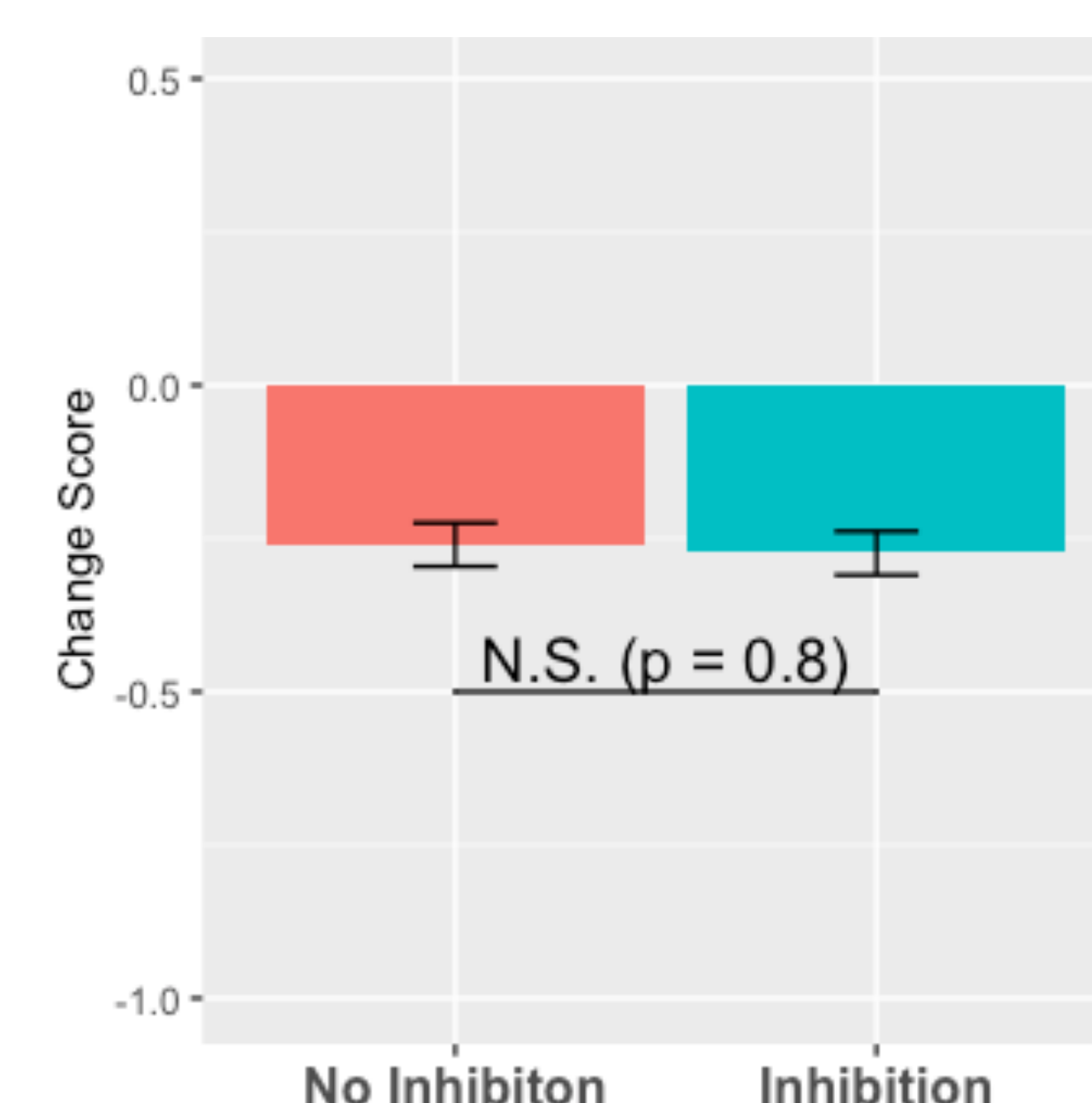
### Model parameters

- Random intercept = participant ID
- Estimate = Maximum likelihood
- Goodness of fit =  $R^2$  (MuMIn)

## Results

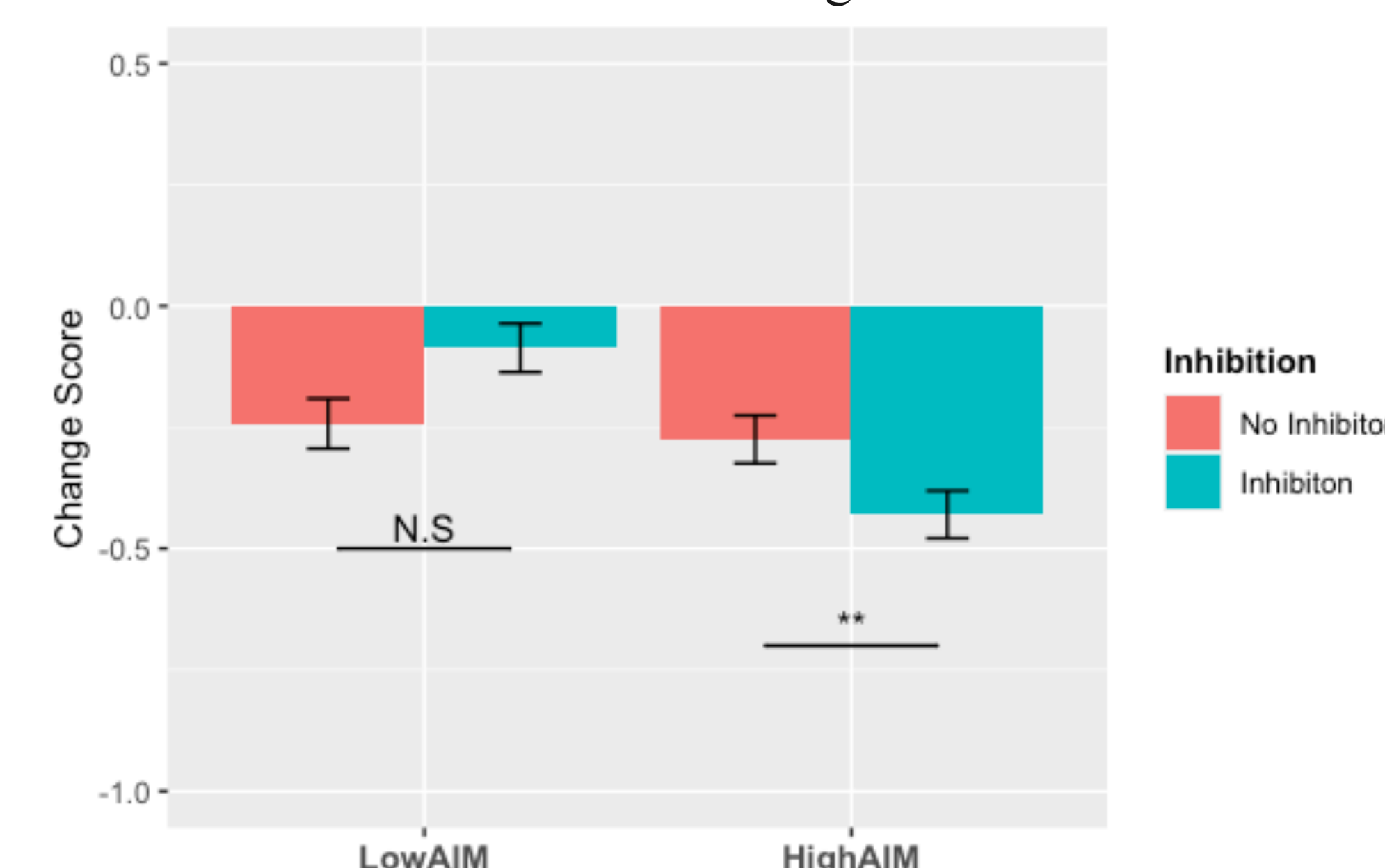
### Model 2 (Change Score ~ Inhibit)

- Did not explain more variance than intercept only model
- No effect of inhibition



### Model 3 \* (Change Score ~ Inhibit + AIM + Inhibit \* AIM)

- Explained 10% of variance ( $R^2 = 0.102$ )
- Significant main effect of inhibition
- Significant interaction of inhibition \* AIM
- Effect of inhibition ONLY for high AIM



## Discussion

- Inhibiting a response associated with a musical genre leads to decreased preference BUT only for listeners who are high in musical trait absorption.
- This suggests a nuanced depiction of how the inhibition-devaluation effect impacts different listeners.

## Future Directions

- Predict devaluations on the basis of activity in the frontoparietal attention network.
- Examine how personality traits (i.e. Big-5) impact devaluation of inhibited genres<sup>3</sup>
- Examine sustained impact of devaluation over time

## References

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- Sandstrom, G. M., & Russo, F. A. (2013). Absorption in music: Development of a scale to identify individuals with strong emotional responses to music. *Psychology of Music*, 41(2), 216-228.
- Wöstmann, M., Erb, J., Kreitewolf, J., & Obleser, J. (2021). Personality captures dissociations of subjective versus objective noise tolerance.

## ACKNOWLEDGEMENTS