



# Mood Changes After Brief Exposure To Emotional Information

Positive and negative affect changes in relation to visual and auditory emotional information

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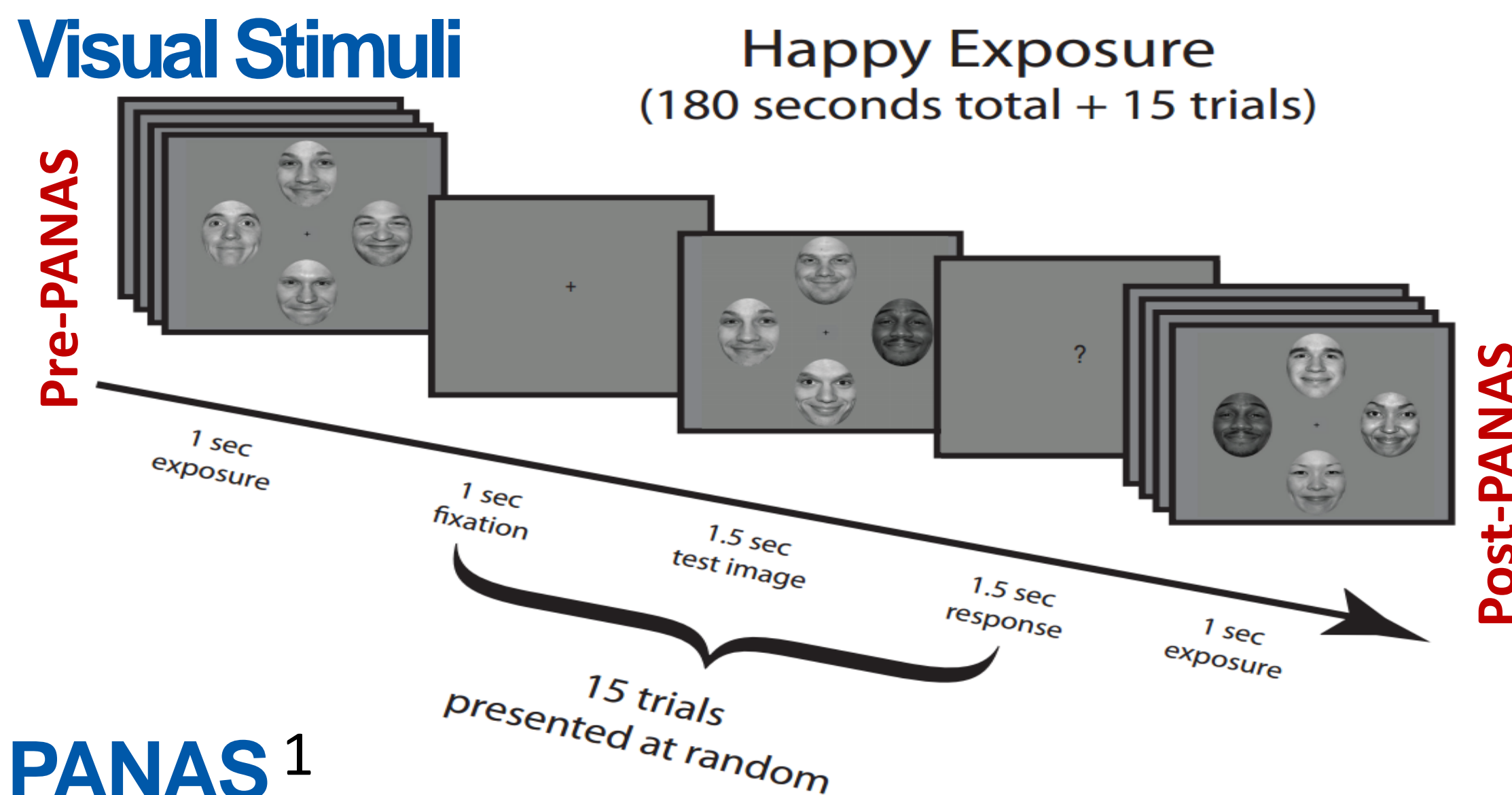
## INTRODUCTION

Our mood and perceptual experience is dictated by the information we gather through our senses.<sup>2</sup> This study examines how visual and auditory emotional information affects current mood, or state affect.

## METHODS: FACE ADAPTATION

Participants were exposed for 3 minutes to congruent (happy faces & positive sounds) or incongruent emotions (happy faces & negative sounds). Face stimuli consisted of a crowd of 4 happy faces (30 unique visual crowd) and were displayed on a monitor. Positive or negative non-linguistic crowd sounds, contained male and female voices, (15 unique crowd sounds) and were presented simultaneously via headphones. Audio-visual crowds were presented at random every second for 180 seconds. Pre and post-exposure, participants filled out a Positive Affect and Negative Affect Schedule (PANAS) questionnaire.

## Visual Stimuli



## PANAS<sup>1</sup>

PANAS is a 20 item self-report measure used to assess positive/negative affect. Participants report how they feel on a 5 point scale (1: "very slightly or not at all" - 5: "extremely"). For each participant, we calculated changes in mood after 3 minutes of exposure to audio-visual emotional crowds as a normalized measure: (post-pre)/pre - for positive and negative affect separately.

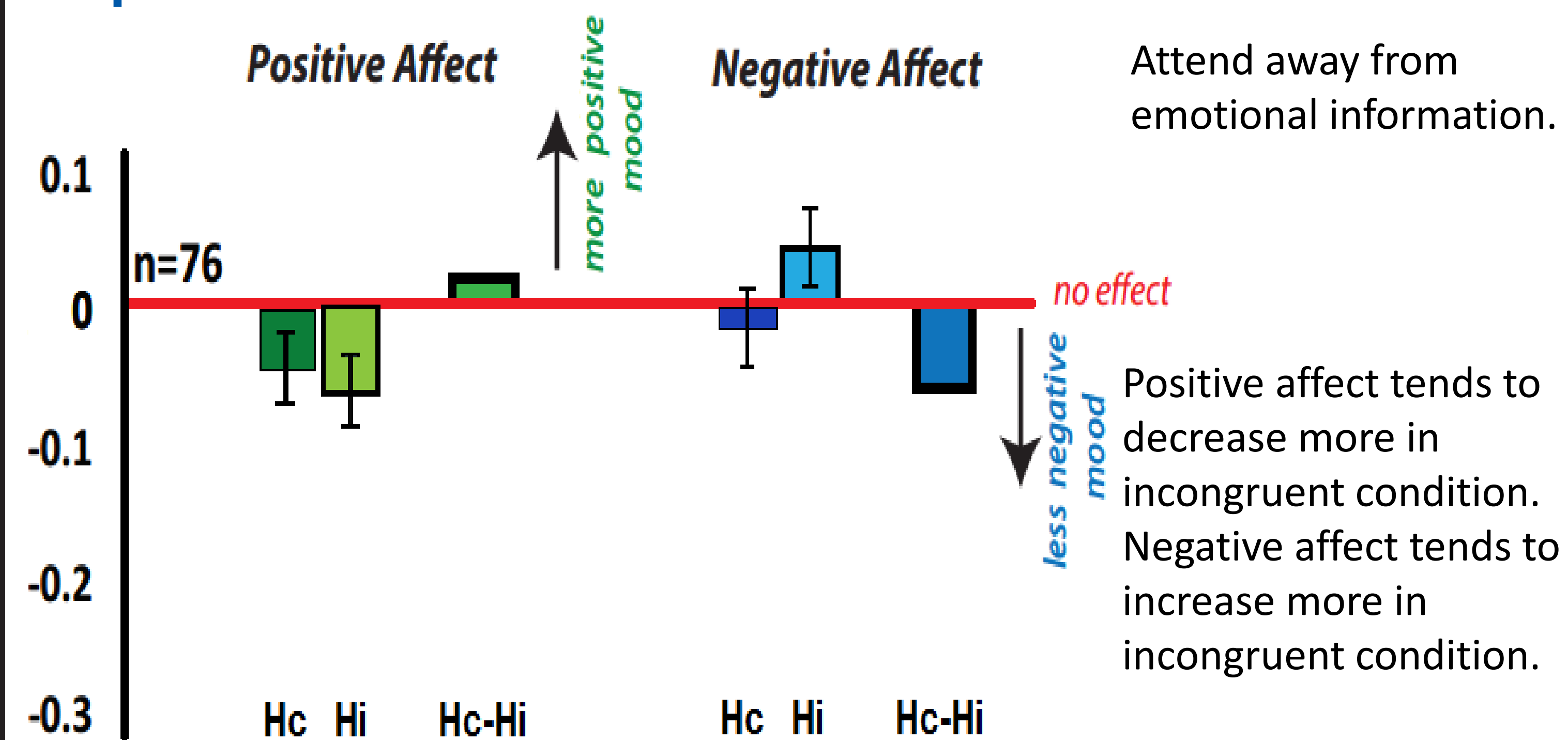
## RESULTS

### Theoretical Predictions

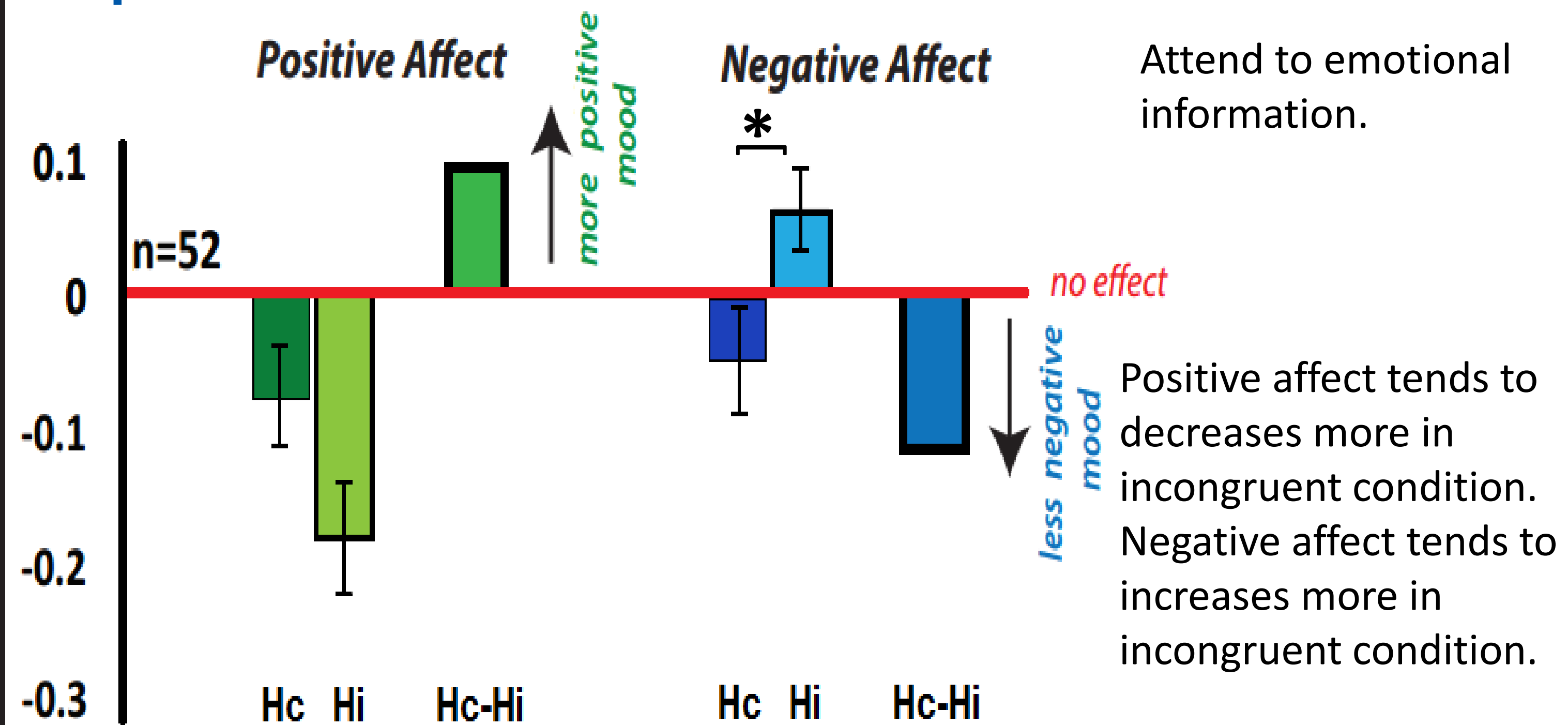
1. We expected positive affect to increase more after exposure to happy faces and positive sounds (congruent) compared to happy faces and negative sounds (incongruent).
2. We expected negative affect to decrease more after exposure to happy faces and positive sounds (congruent) compared to happy faces and negative sounds (incongruent).
3. We expected a larger change in state affect when more attention was focused on emotional information.<sup>3</sup>

### Changes in Affect

#### Experiment 1: Attend Gender



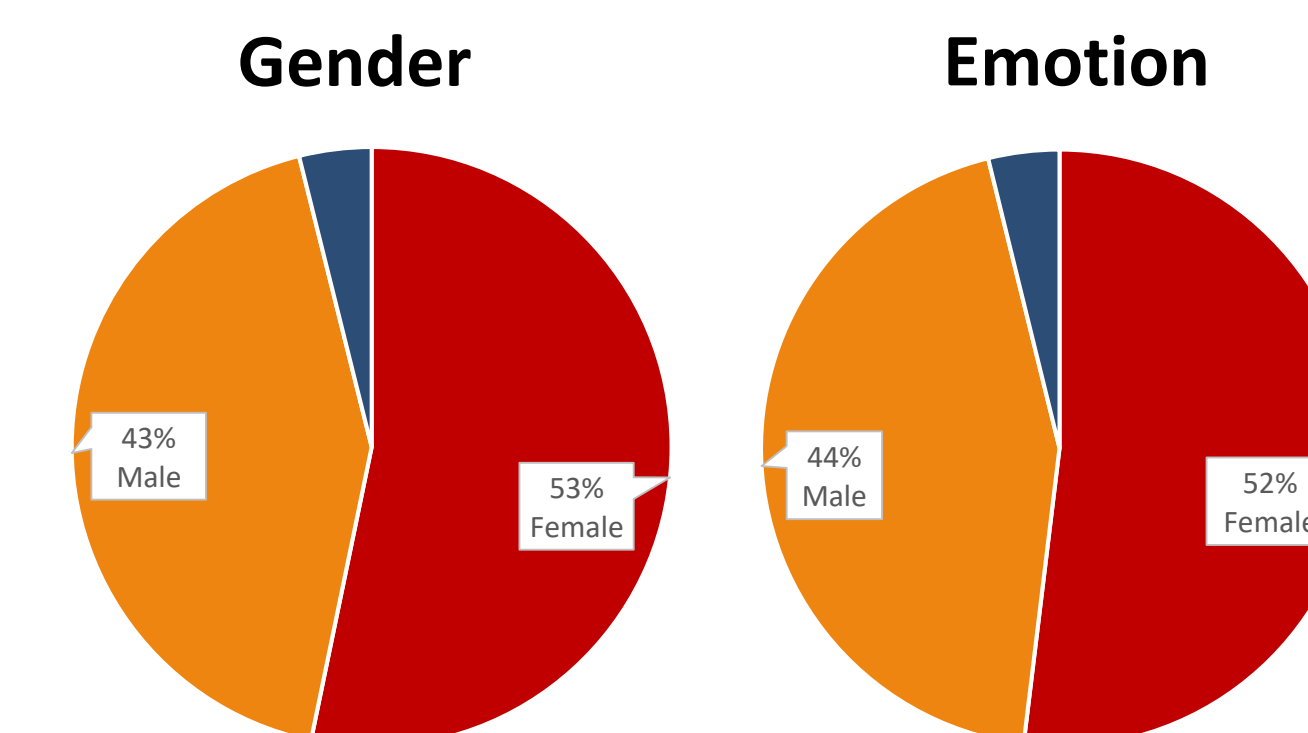
#### Experiment 2: Attend Emotion



Attending emotional information tended to enhance changes in mood.

## Participants

Participants were recruited at the Living Laboratory, Museum of Science, Boston.



## CONCLUSIONS

We find that auditory emotional information and attention influence how visual emotional information in a happy face alters state affect.

### 1. Changes in Positive State Affect

Positive affect tends to increase more when visual and auditory emotional information is congruent versus incongruent.

### 2. Changes in Negative State Affect

Negative affect tends to decrease more when visual and auditory emotional information is congruent versus incongruent.

### 3. Changes with more or less Attention

Exposure to emotional information alters state affect most when emotional information is attended versus when attention is directed to other features of a face, such as gender.

## REFERENCES

- <sup>1</sup>Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: the PANAS scales. *Journal of personality and social psychology*, 54(6), 1063.
- <sup>2</sup>Adams Jr, R. B., Garrido, C. O., Albohn, D. N., Hess, U., & Kleck, R. E. (2016). What Facial Appearance Reveals Over Time: When Perceived Expressions in Neutral Faces Reveal Stable Emotion Dispositions. *Frontiers in Psychology*, 7.
- <sup>3</sup>Pessoa, L., McKenna, M., Gutierrez, E., & Ungerleider, L. G. (2002). Neural processing of emotional faces requires attention. *Proceedings of the National Academy of Sciences*, 99(17), 11458-11463.

This work was supported, in part, by the UMB Dean's Research Fund and the UMB Psychology Dept Research Award to vmc.