

# Acute Mindfulness' Effects on State Anxiety, Test Anxiety, and Positive Affect



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## INTRODUCTION

### Research Question

Our research question is whether a 3 minute one time guided mindfulness meditation will effectively reduce state anxiety and test anxiety and improve positive affect in college students. We also want to examine if this relationship will be moderated by self esteem.

### Repeated Mindfulness Treatments, Anxiety, and Positive Affect

Mindfulness: becoming aware of one's thoughts and body  
Builds off of the psychological model of mindfulness (Brown et al., 2015)  
Mindfulness interventions (MBSR) involve repetition over several weeks, and shows decreases in state and trait anxiety.  
College students who participated in repeated mindfulness exercises showed decreases in test anxiety (Dundas et al., 2016).

In younger students, mindfulness treatments lead to increased positive outlook and life satisfaction (Amundsen, R., 2020).

### Anxiety, Self-esteem, and Suicidal Ideation

Significant link between low self esteem and anxiety, suicidal ideation, and academic stress (Ngyuen et al., 2019)

Anxiety directly linked to suicidal ideation

Anxiety is prevalent issue in college students (Beiter et al., 2015).

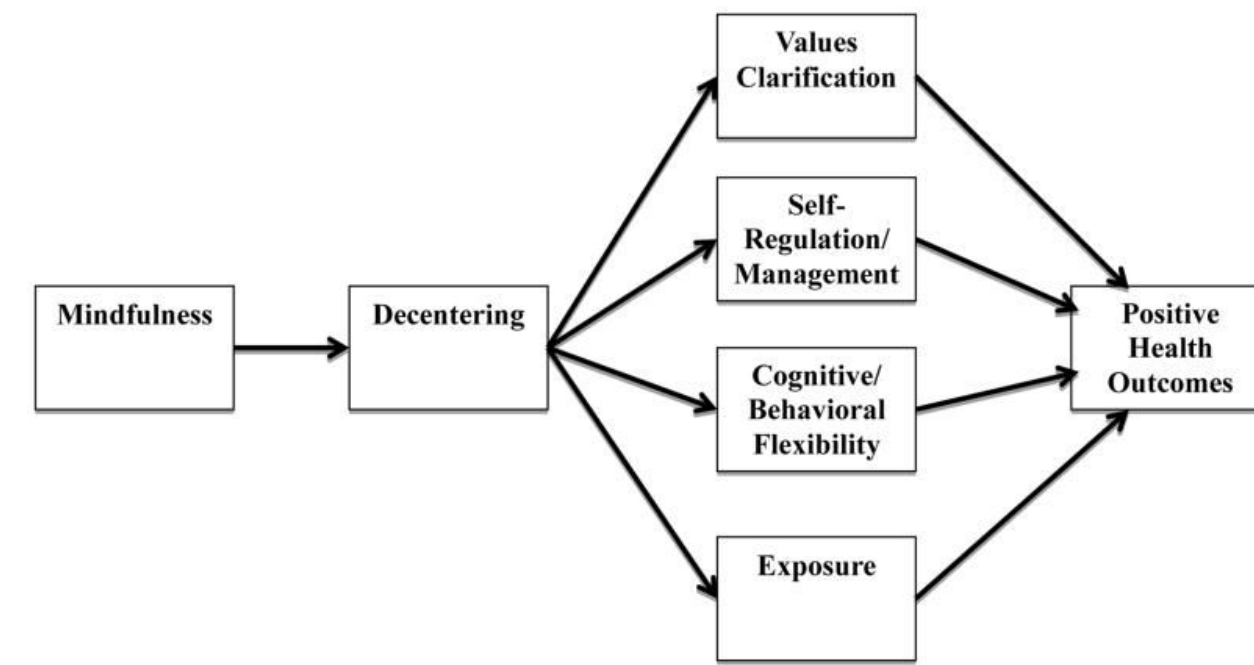
### Rationale of the Current Study

Need for more treatment options for college students

Lack of research on mindfulness as an acute mental health treatment

Mindfulness improves positive affect in younger students and present study applies it to the older age group of college students

Low self esteem has been linked to greater anxiety, but there is no research on whether anxiety interventions like mindfulness will be less effective for individuals with low self esteem.



## METHOD

### 2x2 Between Subject Design

**Independent Variable** (Mindfulness vs. Control):

- Half of the participants assigned to the mindfulness group (3-minute countdown with guided mindfulness audio) and the other half was assigned to the control group (3-minute countdown doing nothing)

**Moderator** (Self-Esteem):

- Median split (median = 3.05)
  - High
  - Low

**Dependent Variable 1** (State Anxiety):

- The State-Trait Anxiety Inventory (Spielberger et al, 2017)

**Dependent Variable 2** (Test Anxiety):

- Revised Test Anxiety Scale (Benson et al, 1994)

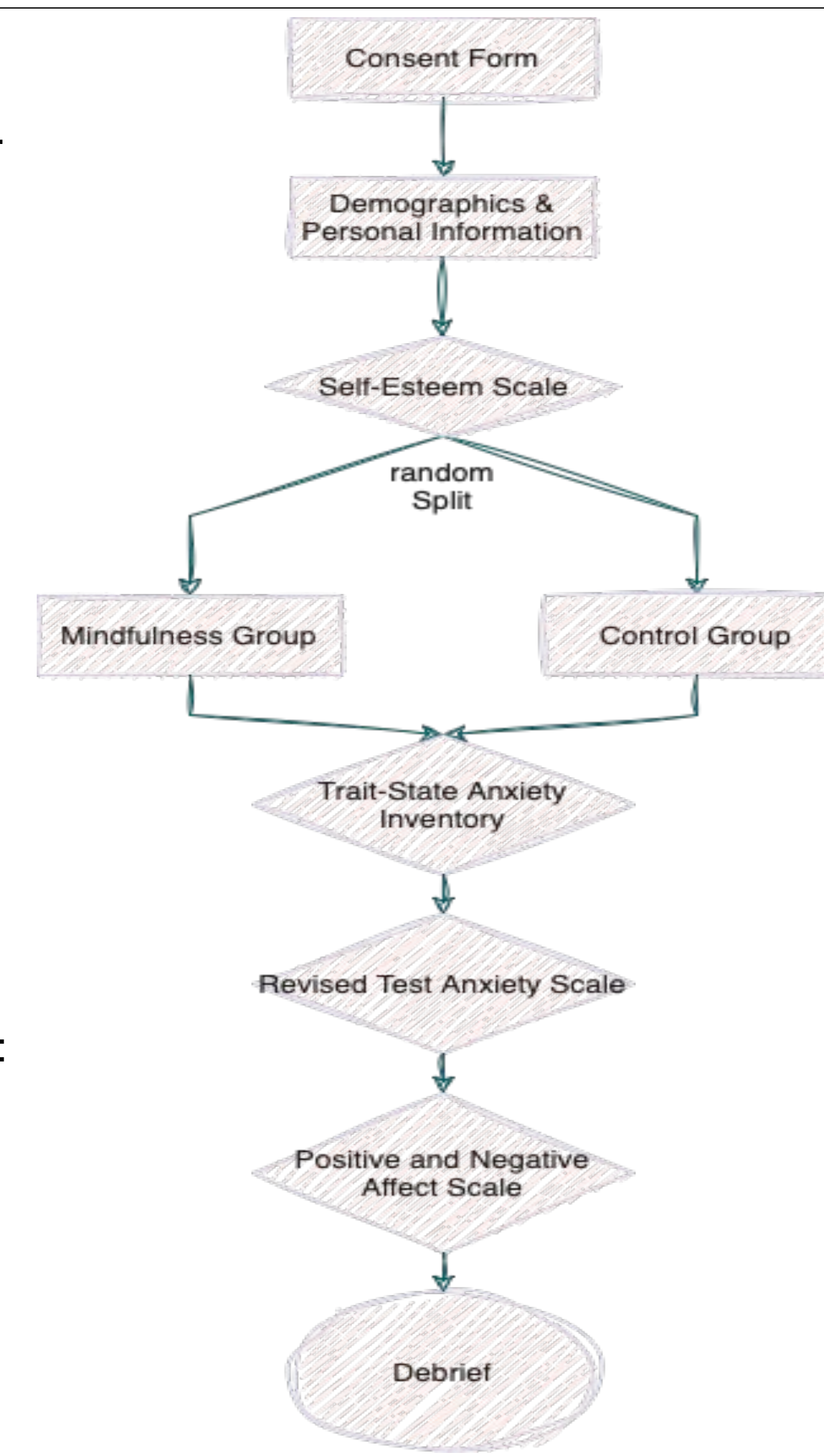
**Dependent Variable 3** (Positive Affect):

- Positive And Negative Affect Schedule (Watson et al. 1988)

### Participants

59 university undergraduates (25.4% Male, 74.6% Female)

**Age range:** 18-25



## RESULTS

### 2x2 Between Subjects ANOVA

**DV: Positive Affect**

**Main Effect of IV Mindfulness:**

$[F(1,59) = 13.07, p < 0.001, \eta^2 = 0.181]$

Significant main effect of mindfulness on positive affect

**Moderator Effect of Self-Esteem:**

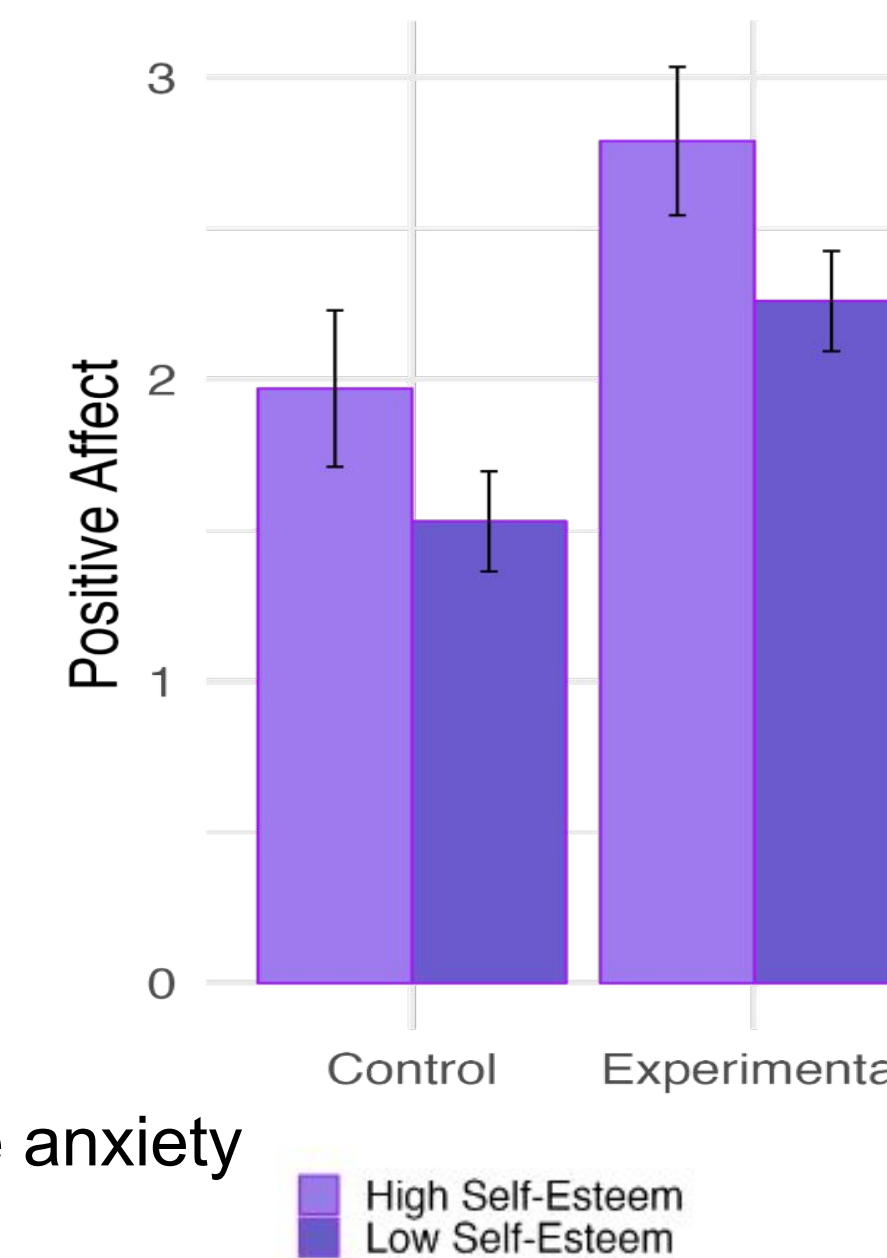
$[F(1,59)=5.25, p=0.025, \eta^2 = 0.082]$

Significant main effect of self esteem on positive affect

**Interaction:**

$[F(1,59)=0.04, p=0.836, \eta^2 < 0.001]$

No significant interaction effect



**DV: State Anxiety**

**Main Effect of IV Mindfulness:**

$[F(1,58) = 3.90, p = 0.053, \eta^2 = 0.06]$

Marginally significant main effect of mindfulness on state anxiety

**Moderator Effect of Self-Esteem:**

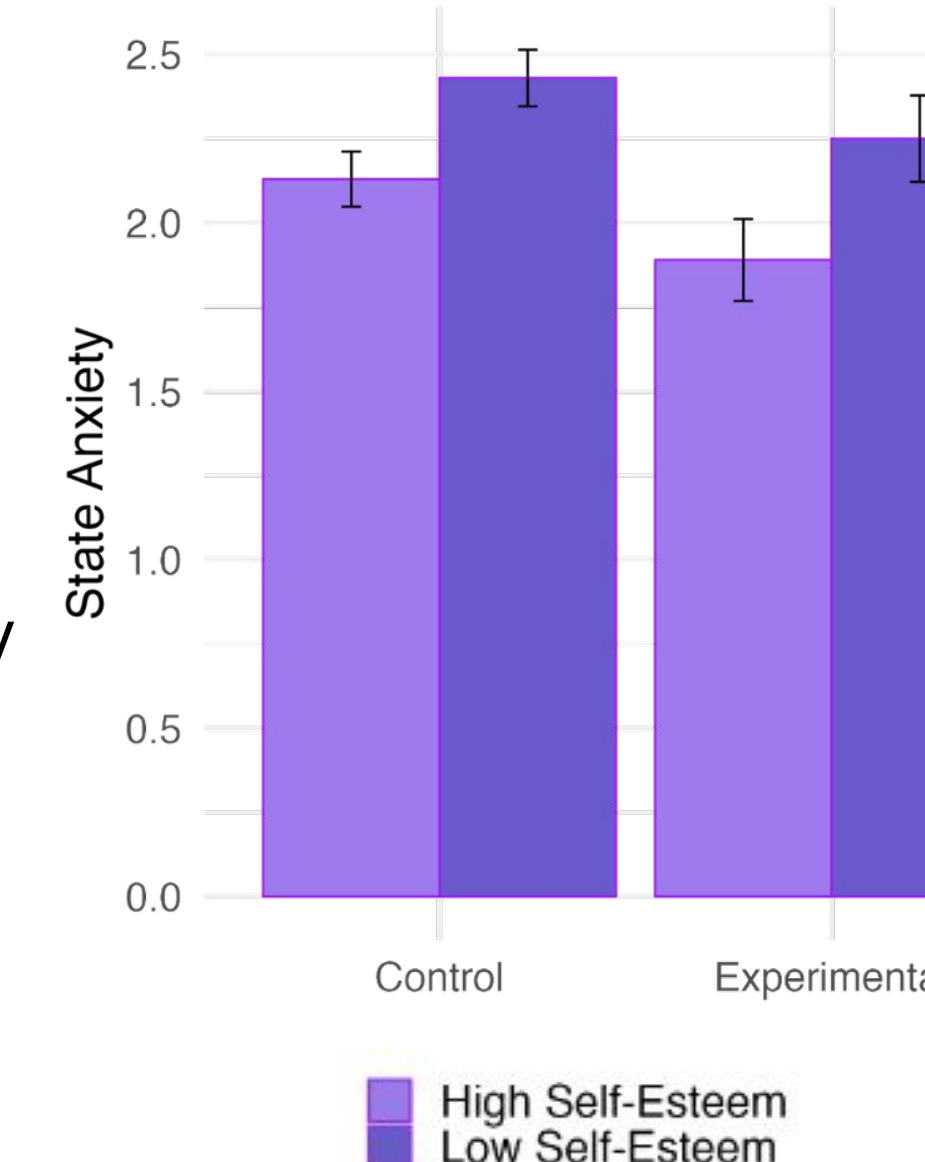
$[F(1,58)=9.51, p=0.003, \eta^2= 0.141]$

Significant main effect of self-esteem on state anxiety

**Interaction:**

$[F(1,58)=0.08, p=0.780, \eta^2 = 0.01]$

No significant interaction effect



**DV: Test Anxiety**

**Main Effect of IV Mindfulness:**

$[F(1,58) = 0.73, p = 0.396, \eta^2 = 0.012]$

No significant main effect of mindfulness on test anxiety

**Moderator Effect of Self-Esteem:**

$[F(1,58)=8.33, p=0.005, \eta^2 = 0.126]$

Significant main effect of self-esteem on test anxiety

**Interaction:**

$[F(1,58)=0.2.80, p=0.100, \eta^2 = 0.046]$

No significant interaction effect

## DISCUSSION

- Our study - mindfulness effects on state anxiety, test anxiety, positive affect
  - Condition: marginal effects on state anxiety and significant effects on positive affect
  - Self esteem: significant effect on state anxiety, test anxiety, and positive affect
  - No significant effect of mindfulness on test anxiety
  - No significant interaction of mindfulness and self esteem on any DVs
  - Mindfulness is a viable treatment option for students. Expands past research on long term mindfulness training by studying short one time measure and expands past research on positive affect to college students population.
  - Important due to past findings of anxiety in college students
  - Can be taught to students through psychologists, teachers, counselors

**Limitations**

- Test anxiety
  - Long term nature of test anxiety means it acts more like trait anxiety
  - Participants' upcoming tests at different times = varying intensity of test anxiety
  - Trait anxiety hard to change from one time short mindfulness video
- Online format
  - Could not control actions of participants, activity during intervention could skew results

**Future directions**

- Test anxiety
  - measure the effects of mindfulness on test anxiety the day of a test
  - state rather than trait; control for the varying tests coming up in future
- Online format
  - ensure participants are not engaging in other tasks

**Conclusion**

- A one time mindfulness meditation marginally reduces state anxiety and significantly increases positive affect.
- Possible treatment for anxiety and a way to increase positive feelings and outlook.

## ACKNOWLEDGMENTS

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## HYPOTHESES

### Hypotheses

- Main effect:** Subjects assigned to the mindfulness condition will report lower levels of state anxiety and test anxiety and higher levels of positive affect in comparison to subjects assigned to the control condition.
- Moderator effect:** Subjects with high trait self-esteem will report lower levels of state anxiety and test anxiety and higher levels of positive affect in comparison to subjects with low trait self-esteem.
- Interaction effect:** Subjects assigned to the mindfulness condition will report lower levels of state anxiety and test anxiety and higher levels of positive affect in comparison to subjects assigned to the control condition, and this effect will be more pronounced in subjects with high self-esteem.

