STRESS MINDSET:
DOES IT (OR DOES IT NOT) AFFECT COGNITIVE PERFORMANCE?

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WHAT IS STRESS MINDSET?

- Two possible mindsets:

  - Mindset that **stress is enhancing** for health and performance outcomes

  - Mindset that **stress is debilitating** for health and performance outcomes

MEASURING STRESS MINDSET

- Crum, Salovey, and Achor (2013) created Stress Mindset Measure (SMM)

- Keech, Hagger, O'Callaghan, and Hamilton (2018) created more nuanced Stress Control Mindset Measure (SCMM)

  - 15-item Likert scale from 1 (strongly disagree) to 6 (strongly agree)

  - Included items that suggested stress **CAN BE** enhancing/debilitating – not **IS** enhancing/debilitating

STRESS CONTROL MINDSET MEASURE (SCMM)

	Strongly disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree
1. You are unable to use stress to enhance your performance and productivity	1	2	3	4	5	6
2. Stress can be used as a way to get the most out of your life	1	2	3	4	5	6
3. Stress can be used to enhance your health and vitality	1	2	3	4	5	6
4. Stress must be reduced or avoided to get the most out of life	1	2	3	4	5	6
5. You can use stress to boost your performance and productivity	1	2	3	4	5	6
6. Stress will impair your health and vitality	1	2	3	4	5	6

RESULTS OF PREVIOUS STUDIES

- Crum et al. (2013):
  - Mindsets were successfully manipulated with videos
  - Having a positive mindset influenced participants' self-reported work performance
- Keech et al. (2018):
  - No manipulation
  - Mindset did not influence end-of-year academic performance

WHY STUDY THIS?

- Stress mindset could be a way to combat the negative effects of stress

- No previous research on objective cognitive performance

CURRENT STUDY

- Question: Does stress mindset have an influence on cognitive task performance?

- Hypothesis: Participants with a Positive Mindset would have improved cognitive performance compared to participants with a Negative Mindset

PROCEDURE

- Experimental design manipulating participants' mindsets with Crum et al. (2017) videos

- Measuring mindset with SCMM (Keech et al., 2018)

- Induced stress with the threat of giving a speech in front of principal investigator

- Cognitive performance measured with Stroop color-word task

MANIPULATING STRESS MINDSET

3-minute multimedia videos biased towards either a
positive or negative mindset

POSITIVE MINDSET VIDEO

NEGATIVE MINDSET VIDEO

The stress response is
designed to enhance
cognitive performance

The stress response
can deteriorate
cognitive performance

Crum, Akinola, Martin, & Fath, 2017

COGNITIVE PERFORMANCE

STROOP COLOR-WORD TASK

blue
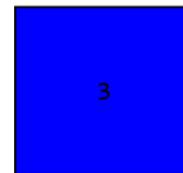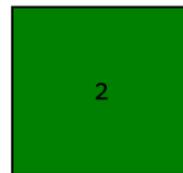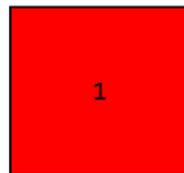
COGNITIVE PERFORMANCE

STROOP COLOR-WORD TASK
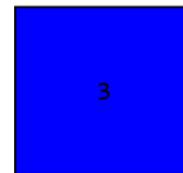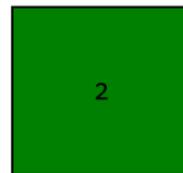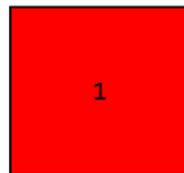
PARTICIPANTS

- 28 undergraduate students recruited through Psychology Research Pool

- 89% female

- 54% white

- Mean age: 27

ANALYSIS

- Two-way mixed design ANOVA

- Independent variables:

  - Mindset manipulation (positive or negative)

  - Participants' baseline stress mindset (positive or negative)

- Dependent variable: cognitive performance

RESULTS

- Statistically significant difference between SCMM scores before and after mindset manipulation, $F(1, 24) = 33.30$, $p < 0.01$

- However, we found no statistically significant differences in Stroop task performance before and after mindset manipulation

  - These results do not support our hypothesis

Stress Mindset Control Scale scores for participants with negative baseline mindset
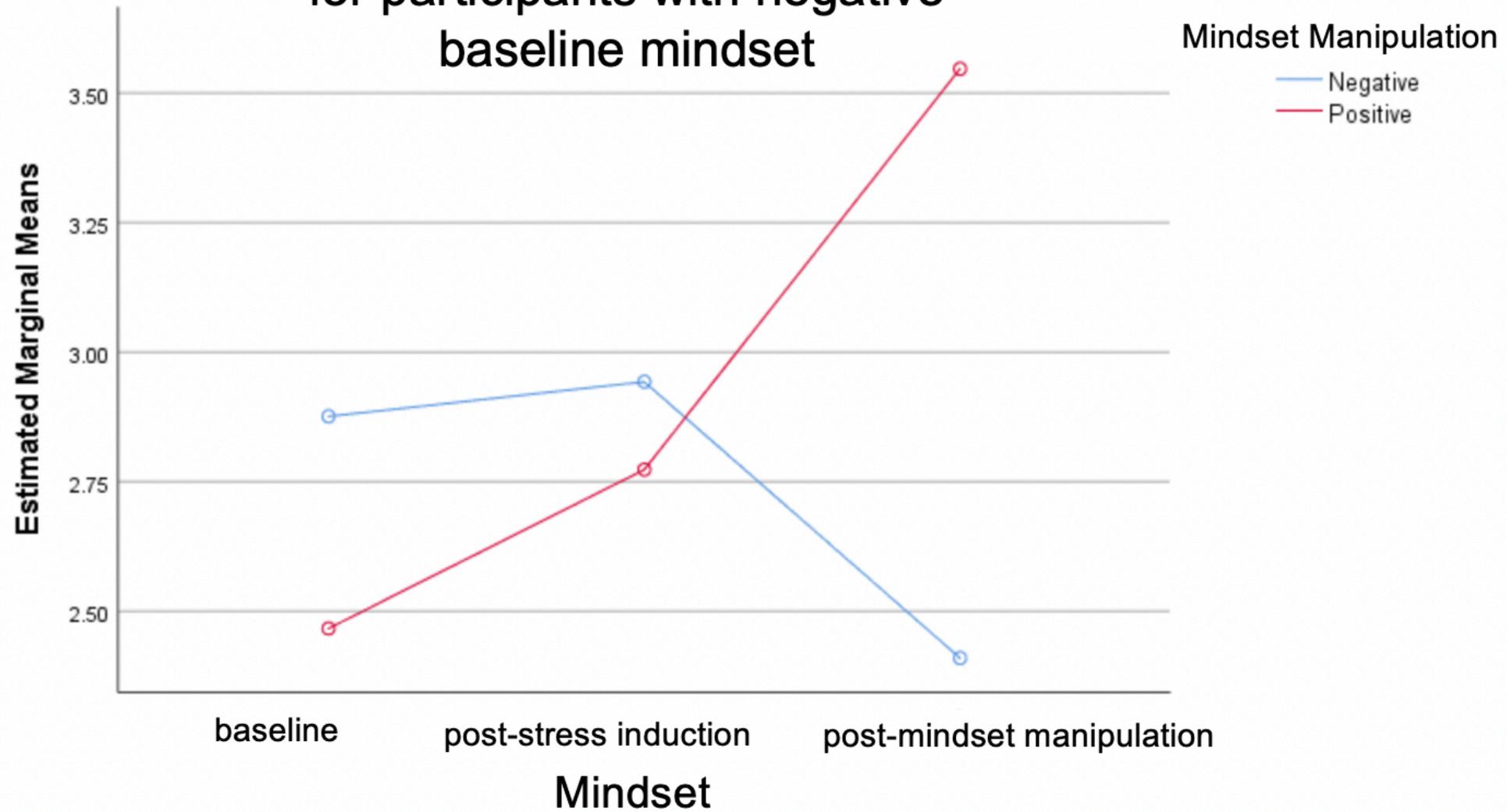
Stress Mindset Control Scale scores
for participants with positive
baseline mindset
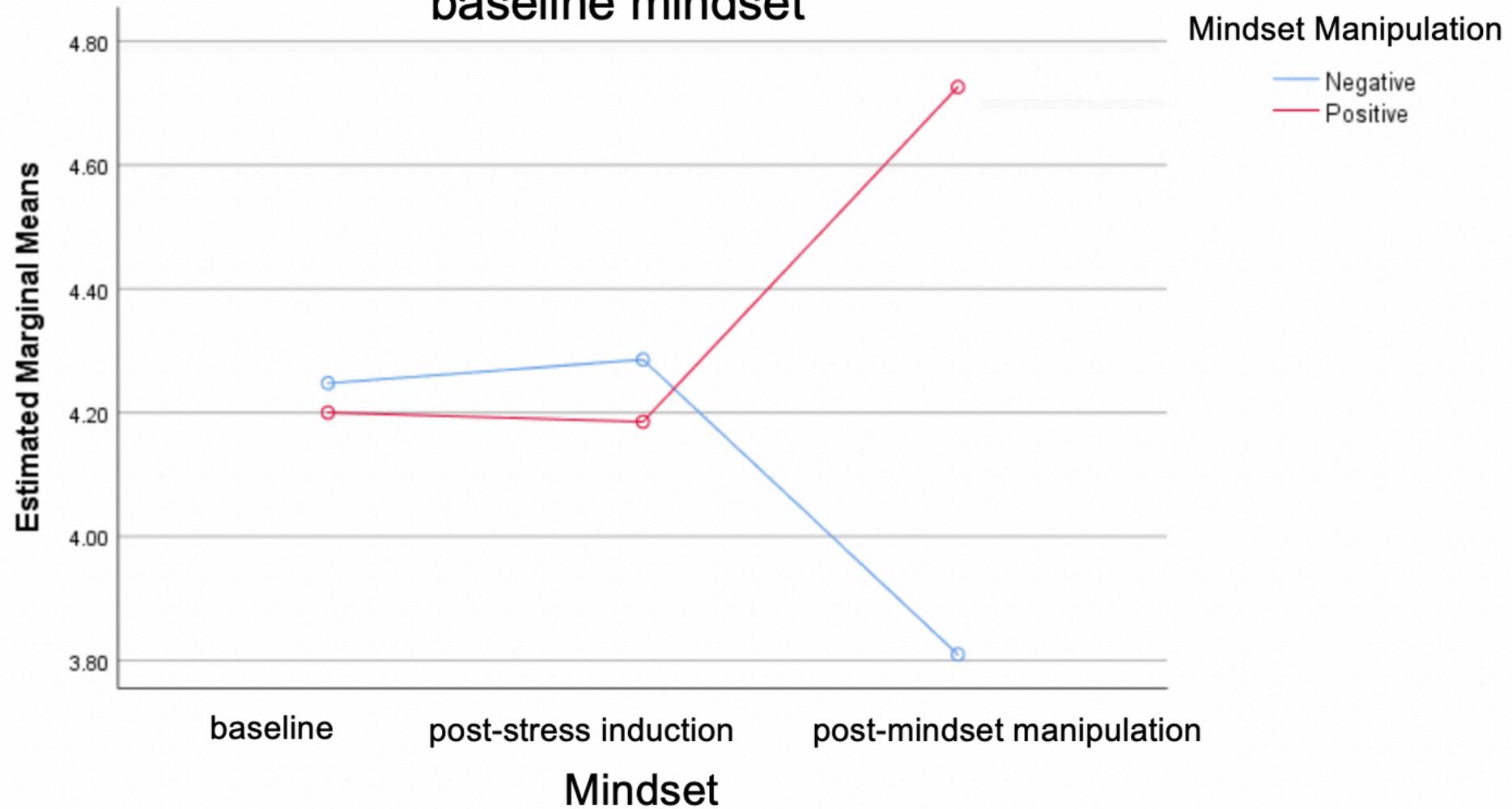
Stroop performance for participants with negative baseline mindset
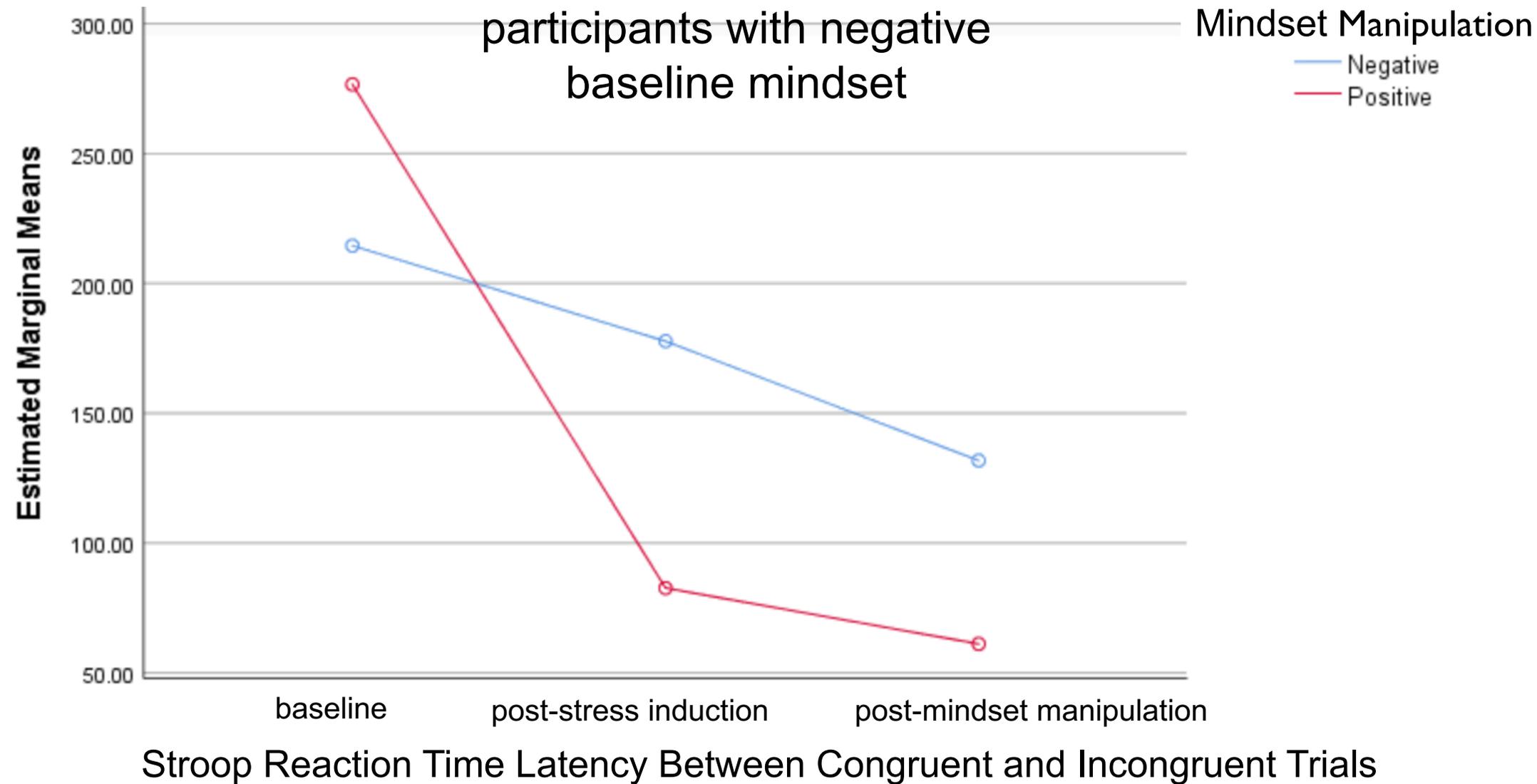
Stroop performance for participants with positive baseline mindset
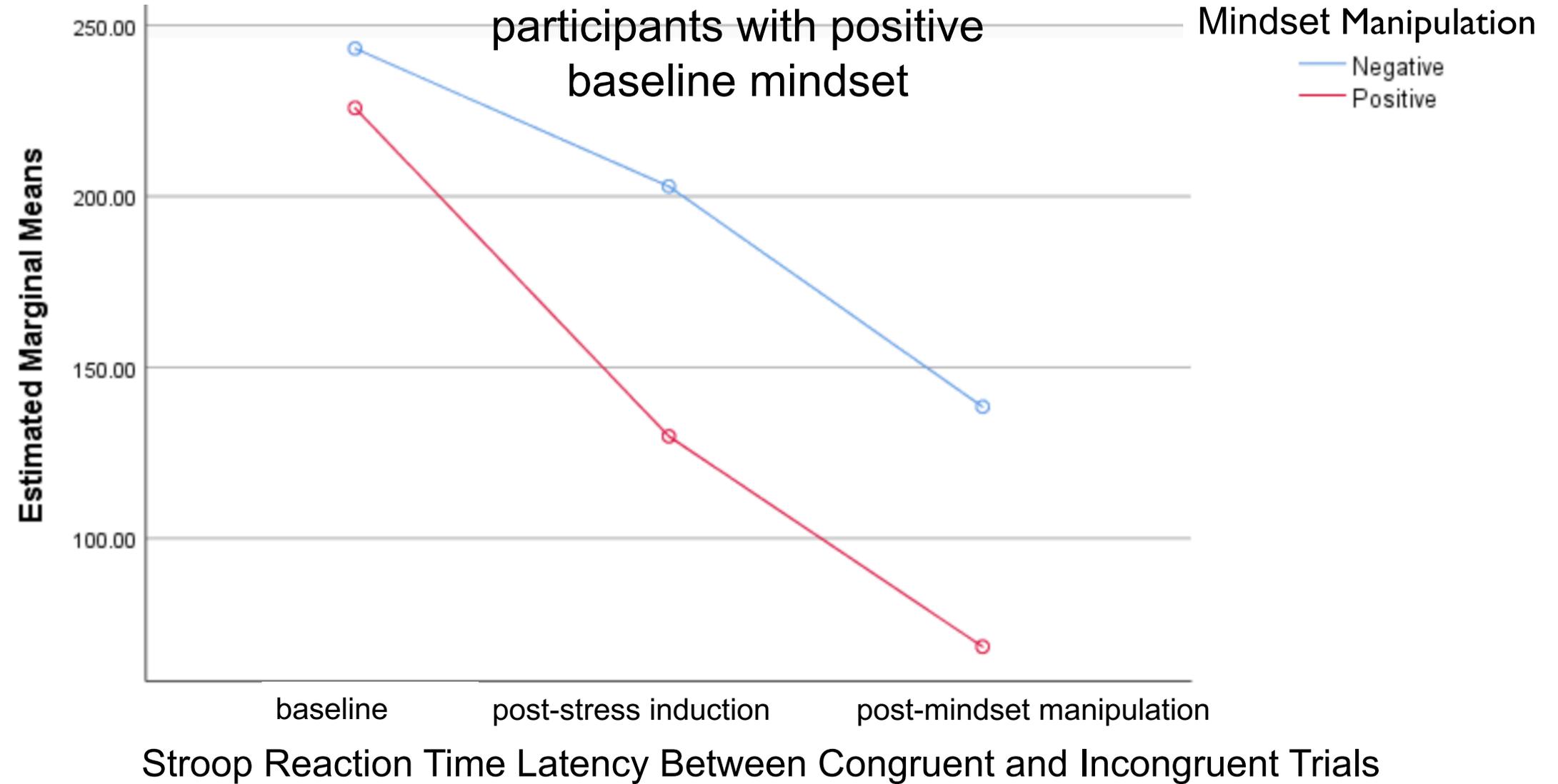
LIMITATIONS

- Small sample size limited statistical analysis

- The method of stress induction may not have been reliable

- Potential practice effect on cognitive task

- Potential participant bias

ONGOING RESEARCH

- Future plans
  - Implicit stress mindset
  - Physiological measure of stress (e.g., cortisol reactivity)
  - Different cognitive task