



Adopting a Growth Mindset: Can Mindsets be Induced?

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Introduction

- For years, educational psychologists have explored ways to increase learner motivation, promote productivity, and improve the overall educational experience of individuals (Maehr & Midgley, 1991; Miele & Molden, 2010).
- One avenue of exploration that psychologists have utilized is the manipulation of mindsets.
- Those who have adopted the belief that intelligence can be changed are referred to as having a growth mindset (Dweck, 2006).
- Those who have adopted the belief that intelligence is a stable trait that cannot be altered are referred to as having a fixed mindset (Dweck, 2006).
- Our research explored the immediate effectiveness of a mindset manipulation in changing growth mindset level, and relationship between mindsets and motivation, depression, and other demographic variables.

Participants

- Criteria for inclusion:
 - Dominant right-handedness
 - No neurological disorders
 - No history of epilepsy or seizure disorder
- Sample retained for analysis: 100
Gender: 84 female, 15 male, 1 other
Age: $M = 21.72$ years, $SD = 5.05$ years

Methodology

- Materials:**
- Mindset Manipulation (Miele & Molden, 2010):
 - Modeled to look like an article from a 2007 issue of *Psychology Today*.
 - Two versions that support either fixed or growth mindset.
 - Growth Mindset Questionnaire (Dweck, 2006).
 - BDI-II (Beck et al., 1996).
 - Assesses participants' level of depression.
 - BIS/BAS Motivation Scales (Carver & White, 1994):
 - Four subscales (BAS Drive, BAS Fun Seeking, BAS Reward Responsiveness, BIS).
- Procedure:**
- Participants completed questionnaires in a counterbalanced order.
 - Participants read the article corresponding to their mindset condition.
 - Condition was randomized (growth versus fixed).
 - Participants completed Growth Mindset Questionnaire and BIS/BAS motivation scale following the manipulation.

Hypotheses

- 1) After reading an article that provides evidence supporting a growth mindset, participants' growth mindset views will improve significantly from pre-manipulation growth mindset views.
- 2) A change in growth mindset will be positively correlated to a change in motivation.
- 3) Depression scores will be negatively correlated with pre-manipulation growth mindset scores.

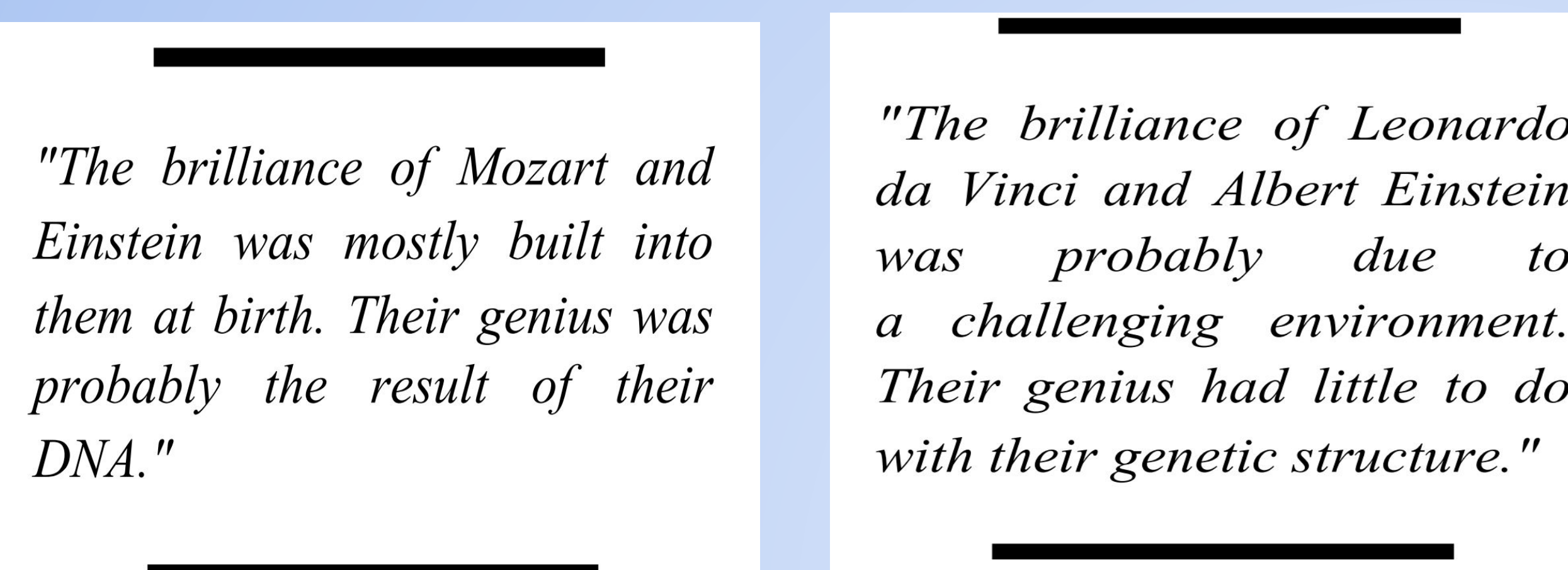


Figure 1(Above): Excerpts of the fixed mindset (left) and growth mindset (right) manipulation readings.

Directions: Read each sentence below and then mark the corresponding box that shows how much you agree with each sentence. There are no right or wrong answers.

	1 Strongly Agree	2 Agree	3 Mostly Agree	4 Mostly Disagree	5 Disagree	6 Strongly Disagree
1. You have a certain amount of intelligence, and you really can't do much to change it.						
2. Your intelligence is something about you that you can't change very much.						
3. No matter who you are, you can significantly change your intelligence level.						

Questions Reflect:
Fixed Mindset: []
Fixed Mindset: []
Growth Mindset: []

Figure 2 (Above): Section of the Growth Mindset Questionnaire

Mean Growth Mindset		Manipulation Condition	
		Fixed Mindset	Growth Mindset
Time	Pre Manipulation	4.67	4.36
	Post Manipulation	3.61	4.68
Change in Mean Growth Mindset (Post-Pre):		-1.06	+0.32

Table 1: Change in mean growth mindset scores from pre to post manipulation

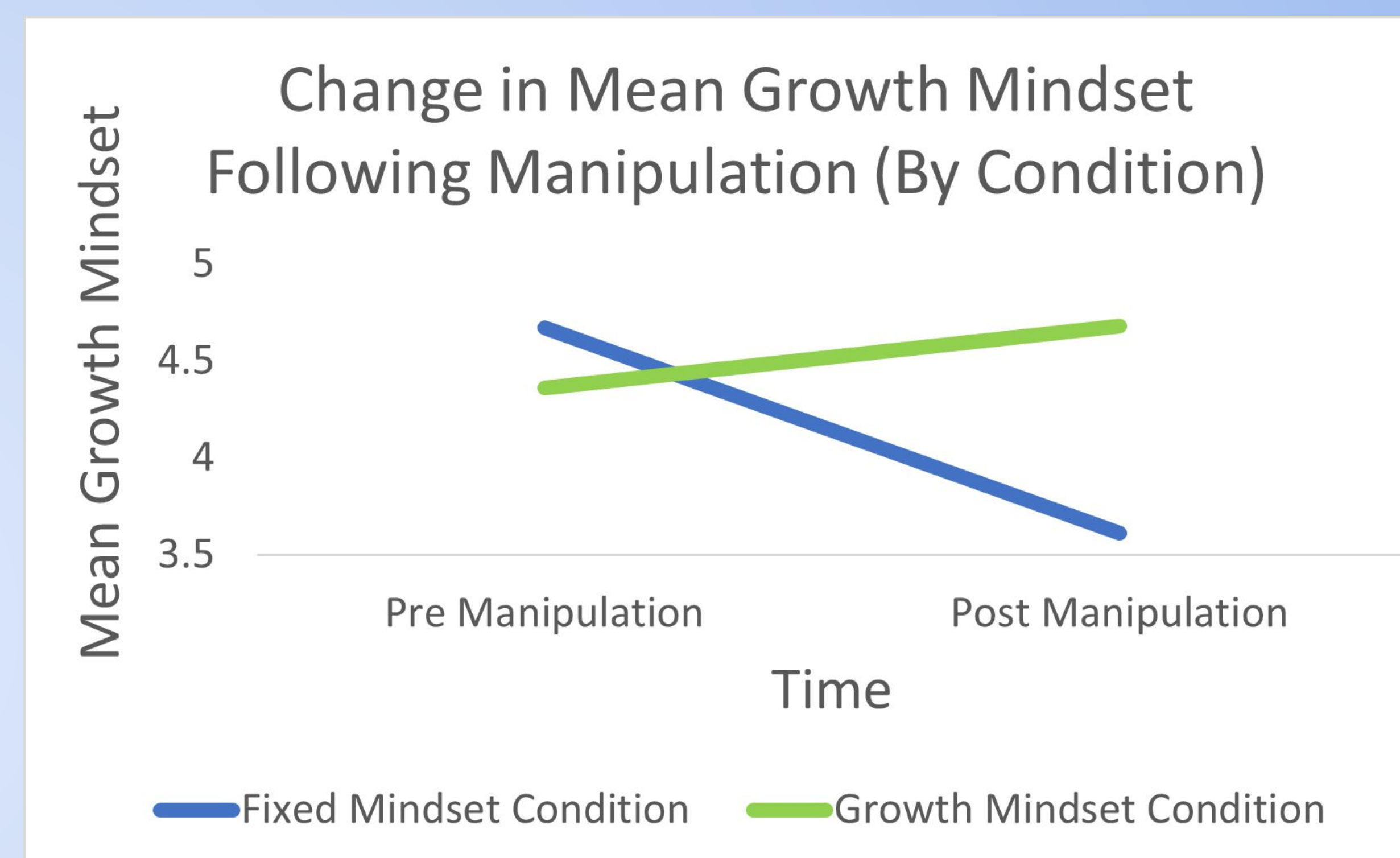


Figure 3: Change in mean growth mindset scores from pre to post manipulation.

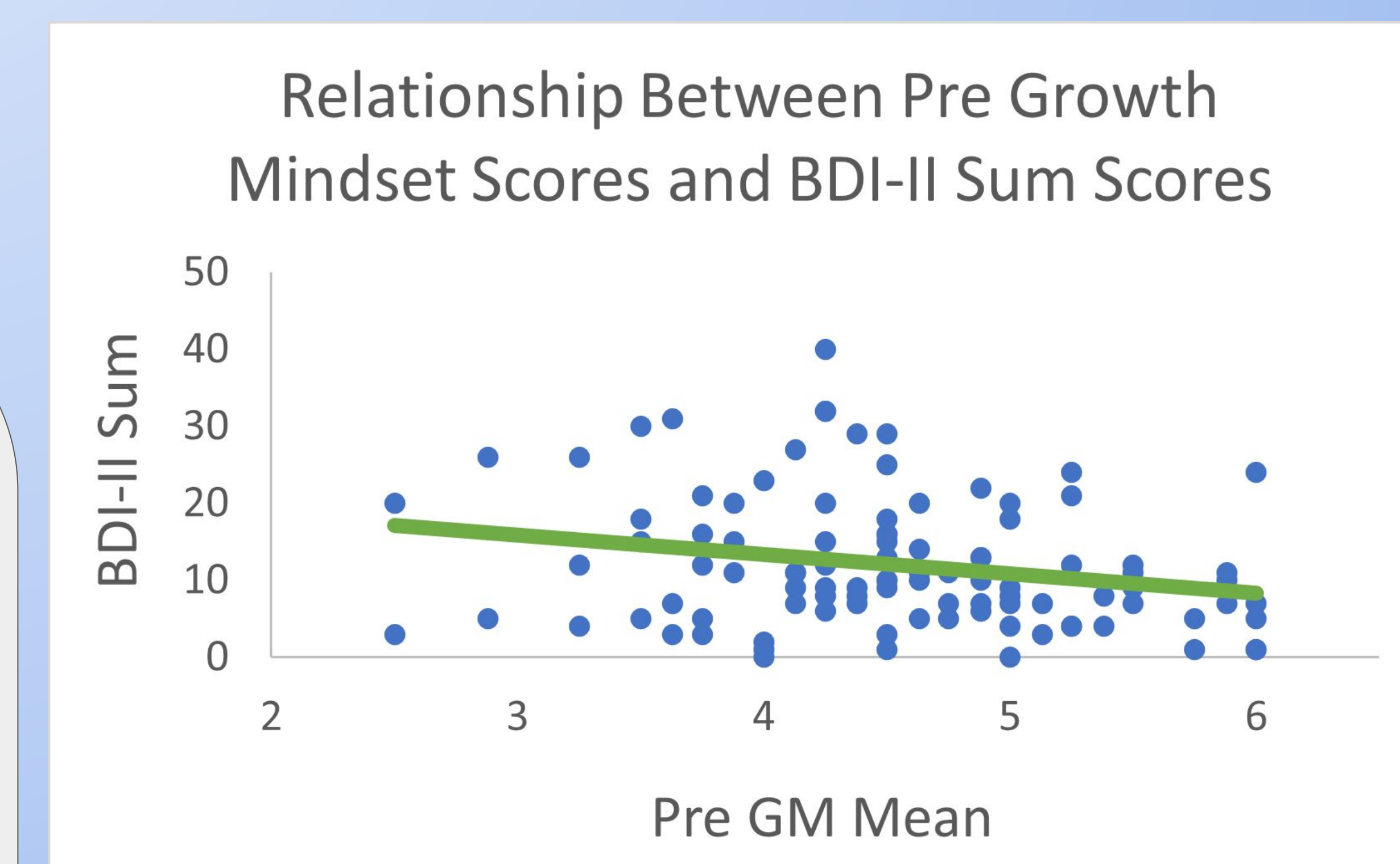


Figure 4: Negative correlation between Pre Growth Mindset scores and BDI-II Sum.

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Discussion

Change in Growth Mindset:

- Participants in the growth mindset condition, on average, scored 0.32 points higher in growth mindset following the manipulation.
- Participants in the fixed mindset condition, on average, scored 1.06 points lower in growth mindset following the manipulation.
- **Therefore, the manipulation was able to effectively induce the target mindset, with particular effects in the fixed condition.**

Change in Growth Mindset & Change in Motivation:

- There were no significant correlations observed between a change in growth mindset and a change in any of the four motivation subscales.
- **Therefore, the manipulation was able to successfully target mindset while not affecting motivation levels. This has allowed growth mindset to be viewed as a separate construct.**

Pre Growth Mindset and Depression:

- Participants who scored higher on the depression inventory scored lower on the pre growth mindset measure.
- **Therefore, a higher depression level is associated with being more likely to adopt a fixed mindset where they do not believe they can alter their intelligence.**

References

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