**Does Positive Affirmation Increase Test Performance?**

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**Abstract**

The study questioned whether reciting affirmations could boost performance in a research methods course. The course and test format were consistent across two sections. The first section did not complete the affirmation whereas the second section completed affirmations. The test scores for the first test were compared between the two sections. No statically significant difference was found. Future research will assess if practicing affirmation is the required solution as a potential to promote performance and research methods.

Keywords: *affirmations, college, test performance, positive*

**Does Positive Affirmation Increase Test Performance?**

Feeling nervous or anxious is standard for most students. At Harris-Stowe State University, professors have noted that students often perform poorly in Research Methods in Psychology. It has been spectated that this is due to anxiety and fear about the science writing and mathematics involved in the course. Past research has shown that teachers implemented the interventions in class, and test performance was the outcome measure.

Studies suggest positive affirmations can increase student performance. Several recent high-profile but small-scale experimental studies have shown that relatively simple, brief, but well-conceptualized social psychological interventions, which focus on individual and socially constructed beliefs that affect school outcomes, can have substantial impacts on secondary and postsecondary students' short- and longer-term educational outcomes (Cohen, Garcia, Apfel, & Master, 2006; Cohen, Purdie-Vaughns, Apfel, & Brzustoski, 2009; Sherman., 2013; Yeager & Walton, 2011). Typically, the interventions target student beliefs that may depress academic performance, such as stereotype threat, which overwhelmingly affects minority students. Indeed, these studies have advanced in the literature to explain the persistent inequalities in academic achievement between African American and Hispanic students and their White peers, stereotype threat simultaneously offers (Steele & Aronson, 1995).

Stereotype threat systematically undermines the performance of negatively stereotyped individuals, such as African Americans and Hispanics, in academic subjects or women in mathematics. In this way, individual psychological processes responding to socially constructed stereotypes may contribute to persistent social inequalities Steele & Aronson, 2004). Several interventions have been developed to mitigate the harm of stereotype threat in real-world settings, including schools (Cohen et al., 2006; Good, Aronson, & Inzlicht, 2003; Walton & Cohen, 2007; Yeager & Walton, 2011). One of the most promising interventions focuses on student self-affirmation (Liu & Steele, 1986; Steele, 1988; Steele & Liu, 1983) through expressive writing. Prior research conducted in three classrooms in a single school found that values affirmation reduced the gap in grade point average (GPA) between Black and White students by 40% (Cohen et al., 2006), an effect that persisted over two years Cohen, J., Mccabe, E. M., Michelli, N. M., & Pickeral, T. (2009).

The self-affirmation theory is a psychological theory that sheds light on how people adapt to experiences and information that threaten their self-concept or self-identity. Based on self-affirmation theory, we can maintain self-integrity, which is correlated to the concept of self-efficacy, by affirming our core values and beliefs.

Furthermore, self-efficacy is our perceived ability to experience a threat to our self-concept without compromising our core values or beliefs. In other words, the perceived ability to respond flexibly and uncompromisingly to experiences or information threatens our self-concept. According to self-affirmation theory, a person should not have to strive for perfection or excellence to maintain their identity. Instead, they should strive for competence in areas of life that are of value to them. Moreover, the last piece of the self-affirmation theory puzzle involves maintaining self-integrity. It acts consistently with our values and beliefs, a principle that merits praise and acknowledgment.

Having been popularized, a self-affirmation theory has garnered much attention from neuroscientists, which has led them to conduct studies and research to see whether or not self-affirmation affects brain activity. With MRI evidence, one study indicates that the neural pathways in the ventromedial prefrontal cortex increase when a person practices self-affirmation. This cortex is part of the human brain associated with self-related information processing and positive valuation. Another indicates that self-affirmation can alter the brain's response to threatening information, viewing such information as self-relevant and valuable. Self-affirmation is not an unfounded new-age practice.

Therefore, we asked if adding positive affirmations to the start of each Research Methods class session would boost student performance. The affirmation intervention was selected based on its success in past studies. These past studies, however, were small-scale experiments and not specifically designed to assess whether the interventions can make a difference at scale and how varying school settings may moderate the effects of any treatment-induced psychological changes. A compelling explanation for these achievement gaps and an avenue to intervene and narrow them. Our goal was to determine if the success of the use of affirmations would translate to the college level at a Historically Black College/University. If the affirmation method works across environments and age group then the method could be broadly implemented to promote student learning. Specifically, we hypothesized that students that preformed the affirmations would score higher on the first test of the semester compared to students that did not perform affirmations.

**Method**

**Participants**

The sample was collected by enrolment in PSYC 280 Research Methods offered at Harris-Stowe State University with Dr. Jill Villarreal, for Fall 2022 or Spring 2023 semesters.Students in the fall semester were assigned to the No-Affirmations Group. This group consisted of 12 students, 9 females and 3 males. Students in the spring semester were assigned to the Affirmations Group this group consisted 10 students, 9 females and 1 male.

**Procedure**

Two independent group were studied. Student self-selected into the study by enrolling into the course. All but one student signed the informed consent form to participate in the study.

For the Affirmations group they started class by reciting affirmations out laud for the first three weeks of the semester. A total of six times. The affirmations they recited were as follows,

Today, I am ready to learn something new.

I am an excellent student.

I am here to expand my scientific skillset.

If I do not understand the material, I will ask for help.

I have courage.

I am not a quitter.

Others look up to me because of my strong intellect and positive attitude.

Effort was made to hold all other aspects of the course constant between the groups.

**Measure**

The Score on first test of the semester was recorded. The teste consisted of 27 multiple choice questions. It covered Chapter 1 and 2 in textbook and lectures on:

Why psychology research is undertaken, and the audiences that profit from research

How do you identify a research problem?

How do you distinguish between a purpose statement and a research hypothesis?

**Data Analytic Strategy**

Test scores were compared between groups using a two-tailed t-test assuming unequal variance. Alfa was set at .05.

**Results**

The mean test score was 24.25 (*SD* = 2.05) for students in the no affirmations condition. Students in the affirmations condition had a mean test score of 23.30 (*SD* = 4.00). Figure 1 depicts the mean score of the test for the no affirmations and affirmations treatment groups.

For students in the no affirmations condition scores ranged from 19 to 27; whereas, for students in the affirmations condition scores ranged from 15 to 27. Figure 2 illustrates the letter grade distribution on the test for the two treatment conditions. In both treatment conditions, 50% of the students earned an A on the test, however more students in the affirmations condition scored in the D and F range in the no affirmations condition one student (8% of sample) reached the maximum score of 27. In the affirmations condition two students (20% of sample) reached the maximum score of 27. Two-tailed independent samples t-test that assumed unequal variance indicated that there was no statistically significant difference in tests scores between treatment conditions, *t*(13) = 0.68, *p* = .51.

**Discussion**

1. Key findings, Impotence of findings, Application of findings

Affirmations did not increase test performance.

1. How findings relate to past work
2. Unanswered questions

We don’t have an affective intervention

What should be pursuing instead, goal is to improve performance in class, it should be the whole term, write down your fears, do more hands-on activity to reduce

1. Next steps: to increase test performance

**References**

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**Figure 1**

*Mean score of the test for the no affirmations and affirmations treatment groups.*

**Figure 2**

*Letter-grade distribution on the test for the two treatment conditions.*