



Introduction

In the Spring of 2022, Auburn University emailed an anonymous survey to 333 STEM students to assess the relationship between their learning achievement and their 1) self-efficacy, 2) academic engagement, and 3) academic entitlement.

1. Self-efficacy is how confident one is in their ability to accomplish a goal
2. Academic engagement refers to a student's level of interest and effort put toward their studies
3. Academic entitlement describes a student's sense of entitlement to special treatment (test curves, extra time, extended deadlines, etc)

Survey questions predominantly consisted of Likert-type scales in which the students would rate their reactions to various statements using a range of answers from 1 (not at all true of me/strongly disagree) to 7 (very true of me/strongly agree). Quantitative analysis broke students into percentiles based on their academic achievement and averaged the differences in their responses.

Survey Result Analysis

Figure 1: *Significant Mean Difference in Self-efficacy, Academic Entitlement, and Cognitive Engagement.*

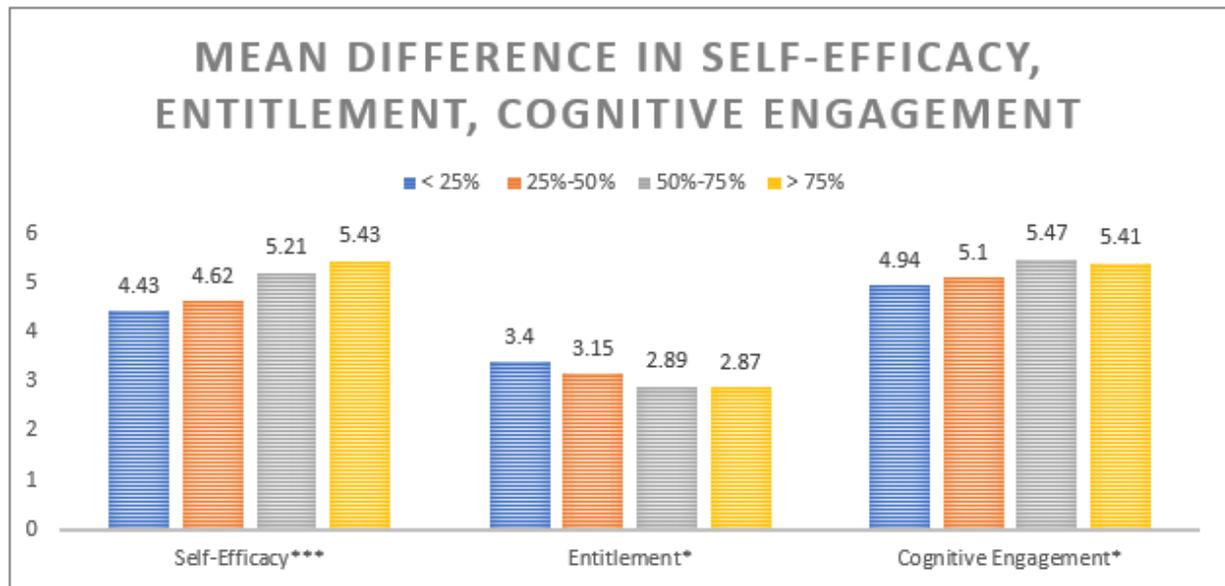


Figure 1 (above) shows that students with higher levels of academic performance reported higher levels of self-efficacy and cognitive engagement, and lower levels of academic entitlement.

Figure 2: *Significant Mean Difference in Self-efficacy*

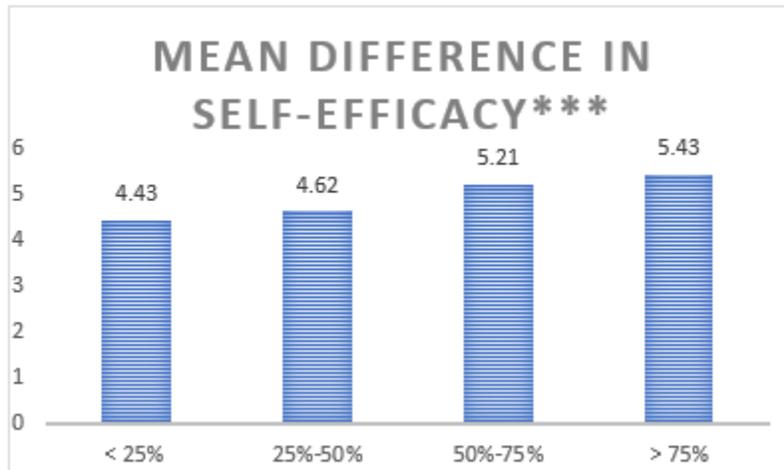
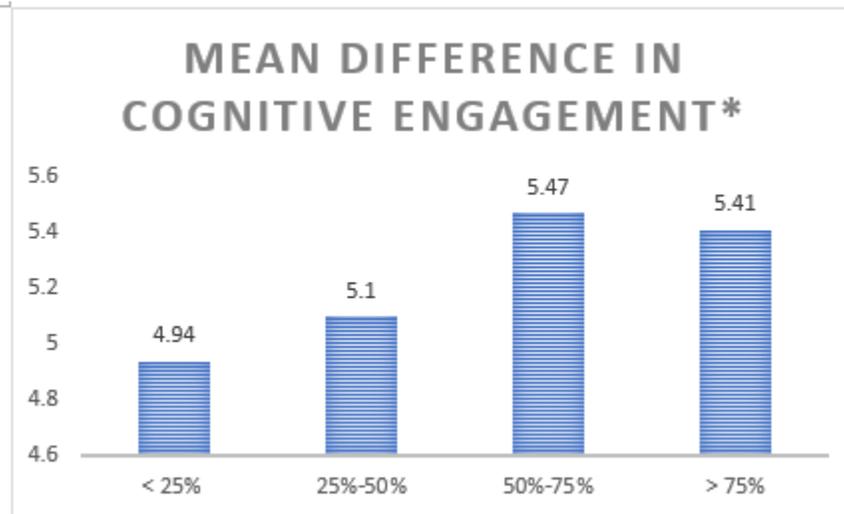


Figure 2 (above) shows a significant difference in students' self-efficacy ratings depending on their academic achievement. In other words, the higher a student's score in a class, the more confident they are compared to lower-scoring peers.

Figure 3: *Significant Mean Difference in Cognitive Engagement*



Similarly, Figure 3 (above) shows that students with better learning achievement are more cognitively engaged with class material and activities. Higher-scoring students have an increased level of mental effort and involvement put toward the learning process. It is worth noting that *Cognitive Engagement* analysis was further broken down to analyze students' sense of belonging and emotional engagement but no significant relationship was found between these factors and academic achievement. This means that lower-scoring students did not feel a significant difference in their sense of connection and attachment to classmates.

Figure 4: *Significant Mean Difference in Academic Entitlement*

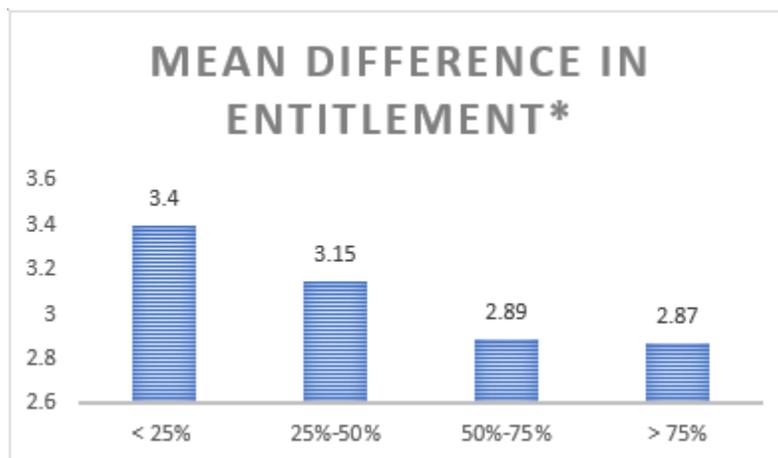


Figure 4 (above) shows an opposite trend when compared to self-efficacy and cognitive engagement; students with higher academic achievement reported lower levels of entitlement. This means students with higher scores more often attributed their shortcomings to insufficient personal effort or learning strategies while lower-scoring students tended to defer to external factors like test difficulty or professor accessibility.

Conclusions

The conductors of this study concluded that self-efficacy can be influenced by one's past experiences, social interactions, and emotional history. Self-efficacy can be improved by specific, positive instructor feedback as well as the creation of challenging but achievable goals. Professors can also promote engagement by leading a positive class environment that emphasizes participation. Finally, to manage entitlement, professors should attempt to set up flexible office hours and reliable forms of communication with students.