

*Original Paper*

Motivation, Fortitude and Success: The Impact of Academic  
Efficacy and Academic Commitment on Academic Performance  
among Minority High School Students

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**Abstract**

*The importance of understanding the elements of success in the education of minority high school students is immense. Recognizing the causes of academic success for these students allows educators to employ better educational and motivational strategies. It has been shown that academic efficacy and academic commitment have a positive impact on academic performance. However, the interaction and relationship between these two variables in having a positive effect on education outcomes among minority high school students is not clear. This paper looks at the relationship between academic efficacy and academic commitment on academic performance among minority high school students. The findings reveal that academic commitment is positively associated with academic performance. However, while academic efficacy has a positive impact on academic commitment the results show that academic efficacy has no direct impact on academic performance among the respondents.*

**Keywords**

*minority education, educational commitment, educational efficacy*

## 1. Introduction

Despite the view put forth by Horace Mann in 1854 that education could be the “great equalizer”, educational success and opportunities in the United States are still far from being the same for everyone. There are still vast differences in achievement when students are disaggregated by race/ethnicity, socio-economic status, and parental education. Education policy researchers have long proposed that these educational outcome differences are a result of differences in school funding, lack of resources, and school overcrowding (Burtless, 1996; Card & Krueger, 1996; Hoxby, 1998). Other researchers point to factors outside the school such as human, family, and social capital found in the homes and communities of these students (Bankston et al., 1997; Bankston, 2004; Coleman, 1988; Desimone, 2001; Lareau, 1987). Social cognitive theory looks at the impact of psychological variables on student outcomes, mainly students’ motivation and efficacy. Perhaps the most prominent research in this realm was done by Morgan (2005) who showed that student beliefs were directly related to commitment and success in education. A big part of this success has been due to an educational culture that values high commitment by rewarding committed students with higher grades (Farkas et al., 1990). This finding was particularly important in understanding educational success for minority children. Morgan et al. (2013) reinforced this finding by showing that student beliefs were not only directly related to student commitment and success, but that beliefs were important to success outside of their connection to educational commitment.

Efficacy is defined as the “people’s judgments of their capabilities to organize and execute courses of action required to attain designated types of performance” (Bandura, 1986, p. 391). A vast amount of empirical research support the theory that self-efficacy has an impact across a multitude of human activities (Bandura, 1997). Research has demonstrated that efficacy beliefs impact career choice, persistence in certain majors, and academic performance among college students (Betz & Hackett, 1981, 1983; Lent, Brown, & Larkin, 1984, 1987; Brown, Lent, & Larkin, 1989; Bembenuddy & White, 2013). Focusing on young children, Schunk found a link between children’s self-efficacy, motivation, and performance (Schunk, 1991).

Many studies have been conducted specifically looking at the link between self-efficacy beliefs and academic performance. In mathematics, perceived efficacy has been shown to be a stronger predictor of academic outcomes than skills and past performance (Pajares & Graham, 1999). In a meta-analysis of thirty-eight studies on the relationship between self-efficacy beliefs and academic outcomes, Multon et al. (1991) found efficacy beliefs account for approximately 14% of the variance on students’ academic performance. In addition, they also found a consistent relationship between self-efficacy and academic persistence across the thirty-eight studies (Multon, Brown, & Lent, 1991). More recent studies have demonstrated a direct link between self-efficacy beliefs and academic outcomes across multiple subject areas (Schunk et al., 2008; Usher & Pajares, 2008; Hassankhani et al., 2015; Hsia, Huang, & Hwang,

2016; Salasar & Hayward, 2018).

### *1.1 Research Questions*

This research focuses on the link between efficacy, commitment, and student performance among minority high school teenagers. Three hypotheses are statistically tested. These include:

Hypothesis 1: Minority high school students with high educational efficacy will have higher academic commitment than students with low academic efficacy.

Hypothesis 2: Minority high school students with a high level of educational commitment will do better in math and reading/language arts than those with lower confidence levels.

Hypothesis 3: Minority high school students with a high level of educational efficacy will do better in math and reading/language arts than those with lower confidence levels.

## **2. Methodology**

### *2.1 Research Participants*

The analysis uses survey responses from 63 minority high school students at various *Boys and Girls Clubs* in the Houston area. The instrument used for the analysis was a 34 item questionnaire designed to ascertain students' education attitudes. The survey was conducted from January to May in 2017.

### *2.2 Data Collection*

The survey was collected in a face to face manner by the United Way Greater Houston and administered to 9<sup>th</sup> to 12<sup>th</sup> grade students in various agencies around the city. Demographic data was collected but not reported publically to protect the identity of the students. Students who reported that they were Black, Hispanic, or from a race/ethnicity other than non-Hispanic white were included in this analysis. Those who identified themselves as non-Hispanic whites or refused to identify their race/ethnicity were eliminated from the analysis so that the focus could be on minority students.

Each question in the instrument was given to the student in text form and read allowed to them to make sure there was complete understanding. In asking opinion questions students were told that there was no right or wrong answer. In addition, they were asked to refrain from answering until the question was read completely and were asked to answer as truthfully as possible. Students were also assured that their parents or guardians would not be given their answers, and that their names would not be used.

### *2.3 Research Design*

The dependent variables for the multivariate analysis were student reported grades in reading and language arts, and math. Students were asked to record the grades that best described their performance in each subject area. The breakdown of the reported scores for the 63 students is displayed in Table 1. Overall, 22 of the 63 students report making mostly A's in reading and language arts. Another 23 report making mostly B's and 17 more report making mostly C's in the subject. Only one student reported making mostly D's in reading and language arts. The reported math grades were somewhat lower. Only

17 students reported making mostly A's, 25 students reported making mostly B's, and 17 students reported making mostly C's. Three students reported making mostly D's in math and one student reported making mostly F's in the subject.

**Table 1. Dependent Variable cross Tabulation of 63 Minority High School Students**

| What grades do you usually receive in: |    | Reading/Language Arts? | Math? |
|--|----|------------------------|-------|
| Mostly ___ A's                         | 22 | 17                     |       |
| (100-90)                               |    |                        |       |
| Mostly ___ B's                         | 23 | 25                     |       |
| (89-80)                                |    |                        |       |
| Mostly ___ C's                         | 17 | 17                     |       |
| (79-70)                                |    |                        |       |
| Mostly ___ D's                         | 1  | 3                      |       |
| (69-60)                                |    |                        |       |
| Mostly ___ F's (59 or below)           | 0  | 1                      |       |

#### 2.4 Data Analysis

Two latent variables, *Academic Commitment* and *Academic Efficacy*, serve as independent variables in the analysis. These two latent variables in the analysis are measured with factor scores in a non-rotated confirmatory factor analysis using a series of six observed respondent answers as indicators. Students were told “I am going to read some sentences to you. I really want to know how you honestly feel about school. I will read each sentence twice. There are no right or wrong answers—just please answer the questions as truthfully as possible”. Students were asked if they “strongly agree”, “agree”, “disagree”, or “strongly disagree” with each question. To measure academic commitment the responses to four statements are used. They are:

- 1) I work as hard as I can in my classes.
- 2) I always concentrate on school subjects during class.
- 3) I keep trying at something until I succeed.
- 4) I motivate myself to do my schoolwork.

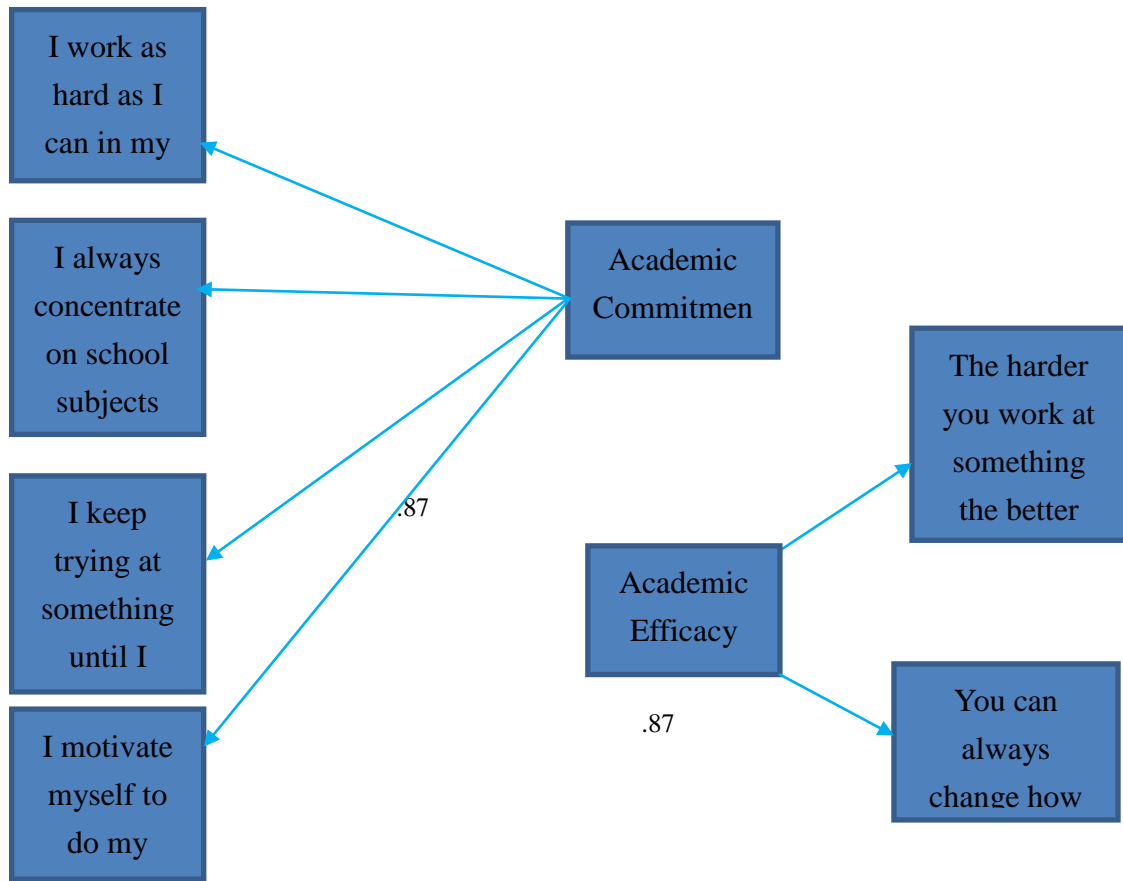
Academic efficacy is measured with responses to two statements. They are:

- 1) The harder you work at something the better you will be at it.
- 2) You can always change how smart you are.

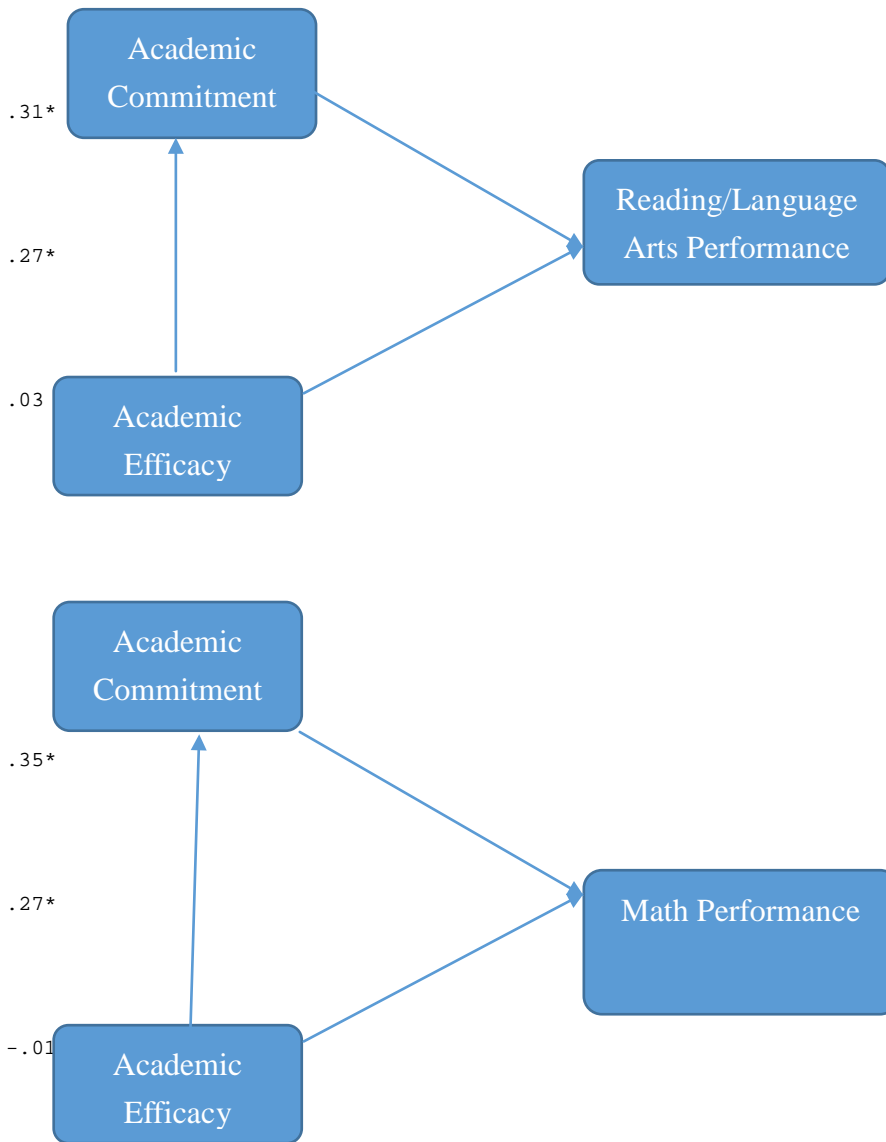
To test the hypotheses a recursive structural equation model is constructed. Academic Efficacy will serve strictly as an independent variable and is hypothesized to have a positive impact on both academic commitment and student performance in both reading/language arts and math. Academic Commitment will be an intervening variable in the mediation model presented and is hypothesized to have a positive impact on academic performance.

### **3. Results**

The principal components extraction results for the two latent variables in the confirmatory factor analysis are presented in Table 2. The four indicators of academic commitment produced a single eigenvalue over one of 2.11. Each indicator correlated with the latent variable at .65 or higher. Nearly 53% of the variance was explained by the indicators. The two indicators of academic efficacy produced an eigenvalue of 1.53 explaining 76.3% of the variance. The indicators correlated at .87.



**Figure 1. Principal Components Extraction of Latent Independent Variables in the Analysis. The Eigenvalue for Academic Commitment is 2.11 (52.7% of Variance Explained). The Eigenvalue of Academic Efficacy Is 1.53 (76.3% of Variance Explained). Coefficients Are Component Loadings**



**Figure 2. Structural Equation Models for Latent Variable Prediction of Academic Performance**  
 Coefficients are standardized beta estimates. \* = statistically significant at the .05 level, two tailed test.

To test the hypotheses the structural equation model was designed to test three separate relationships. First, academic efficacy is hypothesized to increase academic commitment. The premise in this theory being that the belief that education can make a positive difference will provide motivation in the form of academic commitment. The second hypothesis is that academic commitment will positively impact academic performance, in this case performance in reading/language arts and math. The final hypothesis is that educational efficacy will have a positive impact on academic performance controlling for its effect on academic commitment. This hypothesis asserts that academic efficacy, the belief that an individual has the power to produce a positive academic outcome, will increase academic achievement

not only as a factor to improve commitment, but simply as an available avenue of success.

The results from the structural equation model are exhibited in Figure 2. The data reveal that minority high school students who have strong believes that education can change their lives and that they can succeed are significantly more committed in their studies. This commitment translates into significantly better academic performance, both in reading/language arts and in math. However, the hypothesis that academic efficacy by itself will increase academic performance is not supported in either model. In fact, the standardized coefficients are almost exactly zero. The data suggest that academic efficacy has power to produce academic success by motivating academic commitment. However, the impact is only indirect with academic efficacy not producing educational success directly.

A look at the final portion of the model can be seen in Table 2. Here the coefficients are presented in an ordered probit model. A model such as this is optimal when the dependent variable is ordinal in nature as is the case with the student success measures presented in this analysis. The results in Table 2 further confirm the results of the structural equation models. The evidence suggests that academic commitment is very important to minority student success among high school students. In addition, while academic efficacy is positively related to academic commitment, academic efficacy outside of its contribution to academic commitment has no impact on student success. Two of the models also include racial and ethnic categorical variables. These variables were not statistically significant and their addition to the model made no impact on the hypotheses tests. The data suggests that there is not a significant difference in academic performance between racial and ethnic groups among these minority high school students.

**Table 2. Ordered Probit Results Predicting Academic Commitment**

| <u>Latent Variable</u> | Math Performance       |                        | Reading/Language Arts Performance |                        |
|------------------------|------------------------|------------------------|-----------------------------------|------------------------|
|                        | <u>Coef. (Std Err)</u> | <u>Coef. (Std Err)</u> | <u>Coef. (Std Err)</u>            | <u>Coef. (Std Err)</u> |
| Academic Commitment    | .43 (.15)*             | .43 (.15)*             | ..45 (.16)*                       | .44 (.15)*             |
| Academic Efficacy      | -.03 (.15)             | .02 (.14)              | .01 (.15)                         | -.02 (.15)             |
| Hispanic               | -.86 (.73)             | -----                  | .60 (.67)                         | -----                  |
| Black                  | -.47 (.73)             | -----                  | .37 (.68)                         | -----                  |
| Cut 1                  | .04 (.72)              | -.67 (.18)             | -.95 (.67)                        | -.44 (.17)             |
| Cut 2                  | 1.21 (.73)             | .47 (.17)              | .10 (.66)                         | .61 (.18)              |
| Cut 3                  | 2.41 (.76)             | 1.64 (.26)             | 1.86 (.78)                        | 2.37 (.43)             |
| Cut 4                  | 3.11 (.85)             | 2.32 (.44)             | -----                             | -----                  |

\*indicates that coefficient is significant at the .05 level, two tailed test.



## 4. Discussion

### 4.1 Contributions of the Current Study

The importance of finding keys to educational success among minority teenagers is extremely high. Finding pathways to success for minority students can lead to a generation of economic and social achievement that has yet to be realized in United States history. Supplemental support systems for minority students in schools and nonprofit organizations should take strides to understand the needs of minority teenagers and intervene accordingly.

The results here shed light on those pathways to success. This research underscores the importance of commitment to academic success among minority high school students. Minority students who work hard on their studies, are tenacious in their pursuit of knowledge, are intrinsically motivated, and are more successful at school than those who are not. While this may seem intuitive the priority of improving student commitment can take a back seat to providing educational resources and qualified teachers. Such omissions in priorities must be avoided.

The data also suggests that academic efficacy, the belief that an individual has the power to produce a positive academic outcome, also plays an important role in academic success for minority teenagers. However, the results of this research indicate that academic efficacy's role is primarily in motivating students to commit themselves to their education.

While the impact of academic efficacy appears to be indirect its importance should not be underscored. Previous research shows that a lack of academic self-efficacy most often occurs with minority students who are more likely to have a family background without educational success. It is important that minority teenagers have an understanding that educational attainment is a worthwhile adventure and that working hard in education will bring results with long term payoffs.

### 4.2 Implications for Future Research

Further study should focus on the unique circumstances that minority children face in obtaining the efficacy and commitment necessary to succeed in education. In particular, it will be important to find interventions that make a positive and resilient impact on the attitudes of minority children toward educational attainment.

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