

2016

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Seth L. Daly Stennis

Southern Adventist University, sseth@southern.edu

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Recommended Citation

Daly Stennis, Seth L. (2016) "Ethnic Differences in Self-Efficacy at Southern Adventist University," *Journal of Interdisciplinary Undergraduate Research*: Vol. 8 , Article 3.

Available at: <https://knowledge.e.southern.edu/jiur/vol8/iss1/3>

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Ethnic Differences in Self-Efficacy at Southern Adventist University

Southern Adventist University

Abstract

Concern has been expressed about the poor academic performance of African American students, in comparison to their other ethnic counterparts. Many individuals have attempted to explain this anomaly. A large portion of studies show how socioeconomic standing and parental involvement play a role in the academic achievement gap. A more modest amount used psychological factors to explain the deplorable academic achievement in African Americans. One such psychological factor, self-efficacy, was not well represented in the literature; few papers discussed the association of self-efficacy and African American academic success. The purpose of this study was to compare self-efficacy levels of individuals from differing ethnic groups. The study was non-experimental and used a survey methodology as a means to collect data. A 14-question survey was created, with questions that ascertained self-efficacy, ethnicity, gender, age, class standing, academic discipline, and perceived academic success. The sample of convenience consisted of 394 students from Southern Adventist University. Results showed that there were no significant differences in self-efficacy among differing ethnic groups, academic disciplines, or along the spectrum of age. However, the results did find a statistically significant gender difference in self-efficacy, with males toting higher scores, and a positive correlation between GPA and self-efficacy. This research can help explain how different sexes and ethnic groups believe in their capabilities and this can be extrapolated to academia, to answer the question of achievement gaps.

Key words: African American, academic performance, self-efficacy, gender differences

Ethnic Differences in Self-Efficacy at Southern Adventist University

There has been growing concern, in the United States, on the low representation of African Americans in academia and the subpar academic performance of many African American students (Mackell, 2011; Cowan, 2014; Vincent, 2014; Sandoval-Lucero, Maes, & Klingsmith, 2014). The concern is justified. Within the United States, African Americans have one of the lowest high school graduation rates (Stetser & Stillwell, 2014). According to the National Center for Educational Statistics, during the 2010-2011 school, the public high school 4-year adjusted graduation rate was 67 percent for African Americans. This places African Americans in second-to-last place in regards to high school graduation rates, with Asian/Pacific Islanders at 87 percent, Whites at 84 percent, Hispanics at 71 percent and American Indian/Alaska Natives at 65 percent (Stetser & Stillwell, 2014, p. 7). The problem is more endemic than low graduation rates. The African American community is faced with an achievement gap: an occurrence where “one group of students outperforms another group, and the difference in average scores for the two groups is statistically significant” (Cowan Pitre, 2014, p. 209). The National Assessment of Education Progress records levels of reading and mathematics achievement in public school students. Their statistics show that African Americans, as an ethnic group, have one of the highest percentage of students that are below standard in reading and mathematics (Cowan Pitre, 2014). From 4th grade all the way up to 12th grade, African American students had the largest population that was deficient in math and reading (Cowan Pitre, 2014). Dr. Patrice Juliet Pinder, in a separate study, found that African American students had poorer science performance even compared to their Afro-Caribbean counterparts (Pinder, 2012). In her study, she assessed test scores of 87 high school students that

were either African American or Afro-Caribbean and found a significant difference between the mean scores of these groups ($t = 2.43$, $p < 0.05$) (Pinder, 2012, p. 725).

Family Background

Because of findings such as this, there has been a push to answer why African Americans are doing poorer within the education system (Pinder, 2012; Mackell, 2011; Huang & Mason, 2008; Cowan Pitre, 2014). In the aforementioned study, Pinder later compares and contrasts the family backgrounds of Afro-Caribbean students and African American students in an attempt to explain the difference in science performance. Researchers asked seventeen different family factor questions. Certain factors were significantly different between the African American and Afro-Caribbean groups. These factors were living with a father, household number, parental work schedule, parental assistance with homework, number of books in the home, and time spent playing sports. The results showed that more Afro-Caribbean students lived with their fathers, had larger households, had parents who worked less hours, had more parental assistance with homework, had more books within their households and spent more time playing sports, in comparison to their African American counterparts. This study highlighted the importance of family background in academic success. Researchers have looked extensively into family background factors such as socioeconomic status and parental involvement in order to better understand African American academic success (Mackell, 2011).

Socioeconomic status. According to a study done by Kerpelman and Mosher (2011), for every one White child under the poverty line, there are three African American children (Mackell, p. 87). A large amount of African American families are in lower socioeconomic brackets. Interestingly enough, lower socioeconomic status has been linked to lower academic performance. This is because poorer families are unable to invest in resources necessary for

academic success, such as computers, books, and tutors. And because people of low socioeconomic status are more apt to have a limited, sometimes negative, outlook on the future (Mackell, 2011). Aside from socioeconomic status, there is the topic of parental involvement.

Parental Involvement. A considerable amount of research has looked into the role of parental involvement in African American education (Mackell, 2011). Studies have shown that African American parents value the educational success of their children (Huang & Mason, 2008). However, research has shown that a large portion of African American households have low levels of parental involvement (Mackell, 2011). Studies have revealed that this is due to the fact that many African American households are financially challenged and therefore parents are forced to work more hours to support their families and are unable to be involved in their children's lives (Mackell, 2011). Also, "nearly 60% of African-American children reside in non-traditional (usually single-parent) families" (Mackell, 2011, p. 89). This information, coupled with the fact that African American students rely heavily on parents for support during attendance at academic institutions, sheds light on the lack of academic success within the Black community (Mackell, 2011). Black families, like other families, are motivated to see their children succeed. However, they oftentimes deal with roadblocks that other ethnic groups do not. In a study by Grace Hui-Chen Huang (2008), it was shown that many parents were unable to influence their children's learning because they lack the knowledge and ability to do so. Furthermore, due to poorer education systems, parents were unable to form positive relationships with faculty and other parents.

Education system

Patrice Cowan Pitre, in her article "Improving African American Student Outcomes" states that the subpar education that most African Americans receive is the reason for the

educational achievement gap. She makes the claim that the United States educational system is flawed. In 2000, “71% of African American students and 77% of Latino students attended majority ethnic minority schools” (Cowan Pitre, 2014, p. 213). This would mean that segregated schools are now becoming the norm within the United States. The real concern is the state of these “majority ethnic minority” schools. Most of these institutions are also low-income establishments (Cowan Pitre, 2014). In these institutions, commonly attended by African Americans, there is a lack of skilled teachers and quality course work. “Nationally, unqualified teachers are disproportionately assigned to teach low-income ethnic minority children” (Cowan Pitre, 2014, p. 213). Research has also shown that many teachers feel a complacency towards improving the achievement of minorities; there is the preconceived notation that minorities will always be low performing (Cowan Pitre, 2014).

Academic institutions seem to understand this trend in education and have been striving to increase the academic success of African Americans (Vincent, 2014; Dawkins, 2006; Sandoval-Lucero & Maes, 2014). In a study conducted by Dr. Elena Sandoval-Lucero (2014) on a community college population of African American and Latinos, it was found that positive relationships with faculty, family support, and campus engagement were connected to academic achievement. In a separate study, Charisse Cowan Pitre analyzed high performing, high minority, and low-income schools, to establish what made their African American students succeed (Cowan Pitre, 2014). The results showed that “meaningful learning experiences, academic rigor, cultural connections, and profound belief in students' capabilities” were always present in these types of schools (Cowan Pitre, 2014, p. 214).

Psychological factors

A common thread that is found in both of these studies was their emphasis on psychological factors. Certain psychological factors, such as self-esteem, have been well documented in relationship to African American education (Mackell, 2011). However, other psychological factors such as conscientious, internal motivation, external motivation, and self-efficacy are not as well examined. One study was found that looked at these psychological factors in relationship with African American education. In a study by Peter Metofe (2014), self-esteem, conscientious, internal motivation, external motivation, and self-efficacy were correlated to academic performance in an African American sample set. The research showed that “self-efficacy was positively and significantly correlated to academic performance” (Metofe, Gardiner, Walker & Wedlow, 2014, p. 63).

This information spurred on the development of the research idea of comparing the self-efficacy of different ethnic groups to find an explanation for the educational achievement gap. Two studies were found that compared self-efficacy between Whites and African Americans, but none of these studies were focused on academic performance or gathered data on more than two ethnic groups (Smith, 2013; Buchanan & Selmon, 2008). There is a difference in academic performance between racial groups and self-efficacy may be able to explain these differences (Metofe et al., 2014; Buchanan & Selmon, 2008).

Purpose of Study

The purpose of this study is to measure self-efficacy levels of individuals of different ethnic groups. This study is necessary to find out if self-efficacy may be a factor that explains academic achievement gaps and to gauge if a particular ethnic group actually has less confidence in their abilities.

Definition of Terms

In this study, self-efficacy was operationally defined as “beliefs in one’s capabilities to mobilize the motivation, cognitive resources, and courses of action needed to meet given situational demands” (Chen, Gully & Eden, 2001, p. 62). It was measured using the *New General Self-Efficacy (NGSE) Scale*. The scale has scores ranging from 8 to 40 with higher scores indicating higher self-efficacy.

Ethnicity was assessed by presenting participants with a set of ethnic groups (“Asian/Pacific Islander,” “Black,” “Hispanic,” “White,” and “Other”) and asking them to choose which group or groups best described them.

Academic disciplines were obtained by allowing participants to self-report their majors and grouping those majors into different categories. These categories were: Business, Communications, Divinity, Education, Formal Sciences, Humanities, Human Performance and Recreation, Natural Sciences, Nursing, Social Sciences, Multi-Discipline, and Undecided. In this study, Formal Sciences encompassed all Mathematics and Computer-related majors, as well as Engineering pre-professional programs; Human Performance and Recreation encompassed all Physical Education and Outdoor Leadership majors; and Multi-Discipline represented any novel combinations of majors.

Class standing was assessed by giving participants the options of “Freshman,” “Sophomore,” “Junior,” and “Senior.” They were asked to choose what option best described them.

Perceived academic success was assessed by using self-reported GPA; participants were asked to fill in their GPA to the nearest hundredth’s place. According to Peter Metofe (2014, p.

63), “A number of studies have used self-reported GPAs as proxy for academic performance, as they are positively related with actual GPAs obtained from the registrar’s office (e.g., $r = .89$).”

Age and gender were self-reported by participants. For numerical, operational definitions in statistical analysis see appendix.

Hypotheses

Two research hypotheses guided this study:

1. There are ethnic differences in self-efficacy among students at Southern Adventist University.
2. There is a positive relationship between self-efficacy and perceived academic performance.

Research Questions

Four research questions were addressed by this study:

1. What is the level of self-efficacy among students at Southern Adventist University?
2. Are there gender differences in terms of self-efficacy?
3. Are there gender differences in self-efficacy as a function of ethnicity?
4. Do academic disciplines differ in self-efficacy as a function of ethnicity?

Method

Participants

The sample ($n = 394$) was one of convenience used to approximate the proportions at Southern Adventist University. Participants were undergraduate students who attended Southern Adventist University. Participants were members of differing ethnic groups, specifically White, African American, Hispanic, and Asian/Pacific Islander (see Table 1). All participants were dealt

with in accordance to the Code of Conduct of the American Psychological Association and the Ethical Principles of Psychologists (American Psychological Association, 2010).

Materials

The instrument used in this study was a survey that is an extended version of the *New General Self-Efficacy (NGSE) Scale*. It consisted of fourteen items. Eight-items are from *NGSE Scale* and deal with self-efficacy. The other six items were added by this researcher and gather demographic information, such as ethnicity, gender, age, class standing, academic discipline, and perceived academic success. The *New General Self-Efficacy Scale* is a questionnaire developed by Gilad Chen, Stanley Gully, and Dov Eden (2001). The purpose of this scale is to determine an individual's "estimate of his or her overall ability to perform successfully in a wide variety of achievement situations" (p. 79). The researchers go on to say that this questionnaire was specifically created with the intention of "predicting specific self-efficacy across situations and tasks, predicting general and comprehensive performance criteria, and buffering against the effects of adverse experiences in regards to specific self-efficacy" (p. 67). The scale was meant for use within organizations, however, in previous studies, the scale has been used on samples consisting of undergraduate and graduate students (Chen, Gully & Eden, 2001). This specific scale is made up of eight items. The eight items within this scale have a high internal consistency. Studies show the Cronbach alpha value to be between .85 and .88. The test-retest reliability coefficient for this scale was also high ($r = .67$) (Chen, Gully & Eden, 2001). The eight items are scored using a Likert-scale. The range for this questionnaire is 8 to 40. Higher scores indicate greater levels of general self-efficacy, whereas lower scores indicate poorer levels of general self-efficacy.

Design and Procedures

This study was a non-experimental, descriptive study that used survey methodology. The participants were gathered from multiple undergraduate classes at Southern Adventist University. The researcher asked professors for permission to survey students within their classes. The classes surveyed were: Fitness Collegiate Life, Health for Life, Genetics, Cost Accounting, World Civilizations, 19th Century American Literature, C.S. Lewis, Organic Chemistry, Christian Beliefs, and General Psychology. For Organic Chemistry and Genetics, laboratory time was used instead of lecture time. In each of these classes, the researcher was present and briefly explained the research while passing out the survey amongst the participants. The approximate time needed to take the survey was ten minutes. Surveying was done from October 12, 2015 to October 23, 2015.

Data Analysis

Once surveys had been collected, they were scored according to the appropriate key. After that point, the collected data was analyzed. General self-efficacy was assessed using the first eight items of the survey. These eight items are borrowed from the *New General Self-Efficacy Scale (NGSE)*. Demographic information was nominally coded. To answer the hypotheses and research questions, an analysis of covariance, or ANCOVA, test was used. All variables were placed within a linear model and statistical information was drawn from it. Data analysis was done using the statistical program *R Commander* and SPSS. *R Commander* is an extension of the R Environment. According to the R Project website, “R is an integrated suite of software facilities for data manipulation, calculation and graphical display” (“What is R,” n.d, n.p.). SPSS stands for Statistical Package for the Social Sciences and it is a statistical analysis program patented by IBM.

Results

The survey was presented to approximately 557 students. There were 394 participants that completed the survey, netting a 71% participation rate. The mean age of participants was 19.84 (SD = 2.73) with 55% of the participants being female (n = 217) and 45% being male (n = 177). Six ethnic group categories were used for this experiment: Asian/Pacific Islander (n = 73), Black (n = 56), Hispanic (n = 70), White (n = 173), Multi-racial (n = 17), and Other (n = 3). For statistical analysis purposes, the ethnic group “Other” was added to the group “Multi-Racial,” increasing the subjects in this group (n = 20). Twelve different academic disciplines were represented: the highest being Natural Science (n = 151) and the lowest being Communications (n = 8) and Human Performance and Recreation (n = 4) (see Table 1 for other groupings). For statistical analysis purposes, the academic disciplines “Communications” and “Human Performance and Recreation” were added to the group “Multi-discipline,” (n = 22) increasing the subjects in this group (n = 27). Participants from all class standings were surveyed: Freshman (n = 138), Sophomore (n = 119), Junior (n = 85), and Senior (n = 52). The mean self-reported GPA of participants was 3.44 (SD = 0.43). The mean self-efficacy score for all participants was 32.97 (SD = 4.39), with the range being from 8 to 40 on the self-efficacy scale (see Table 1).

Ethnic Groups and Self-Efficacy

Specific results were found in relationship to ethnic groups and self-efficacy scores. The marginal mean (\pm SE) self-efficacy scores for different ethnic groups are as follows: Asian/Pacific Islanders were 32.52 (\pm .79), Blacks were 34.05 (\pm .71), Hispanics were 33.51 (\pm .69), Whites were 32.67 (\pm .43), and the Multi-Racial ethnic group was 33.28 (\pm 1.17) (See Figure 1). An ANCOVA test showed that there were no significant differences in self-efficacy scores among ethnic groups, $F_{(4, 370)} = 1.36$, $p = 0.248$, keeping all other variables constant. These

results falsify the hypothesis of there being ethnic differences in self-efficacy among students at Southern Adventist University.

Perceived Academic Performance and Self-Efficacy

Results also expressed the relationship of self-reported GPA to self-efficacy scores. An ANCOVA test showed that there were significant differences in self-efficacy scores amongst differing GPAs ($F_{(1, 370)} = 24.13, p < 0.001$), keeping all other variables constant. This is to say that different grade point averages had statistically different self-efficacy scores. Furthermore, in the ANCOVA, GPA was found to be a significant indicator of self-efficacy scores, $\beta = 2.73, t_{(348)} = 4.912, p < 0.001$. As grade point averages increased positively, so did self-efficacy scores. These results coincide with the hypothesis that perceived academic performance is positively correlated with self-efficacy score.

Gender and Self-Efficacy

Results were found relating gender and self-efficacy score. The marginal mean (\pm SE) self-efficacy score for females was 31.96 ($\pm .39$) and 34.12 ($\pm .43$) for males. An ANCOVA test stated that there was a significant difference in self-efficacy scores between the two genders, $F_{(1, 370)} = 15.31, p < 0.001$, keeping all other variables constant.

Ethnic Group-Gender Interactions and Self-Efficacy

Results were attained that expressed self-efficacy scores in relationship to gender and ethnic group combinations (see Table 2 for all the ethnic group-gender combinations). A linear model showed that the interaction between gender and ethnic group expressed no significant difference, $F_{(4, 370)} = .167, p = .955$. A Post-hoc Tukey test also verified that there was no significant difference between ethnic-group-gender categories.

Academic Discipline and Self-Efficacy

Statistical analysis expressed self-efficacy scores as a function of academic discipline. The marginal mean (\pm SE) self-efficacy score was calculated for each of the ten categories of academic disciplines (see Figure 2). Business had the highest marginal mean self-efficacy score with 33.86 (\pm .84), whereas Education had the lowest at 31.58 (\pm 1.27) (for other academic disciplines see Table 3). An ANCOVA test showed that there was no significant difference in self-efficacy scores between differing academic disciplines, $F_{(9, 370)} = 0.716, p = 0.695$.

Other Interesting Findings

The ANCOVA model itself showed significance, $F_{(19, 370)} = 2.67, p < 0.001$ and explained a certain amount of variance, $R^2 = 0.13$. This means that all inputted variables, as a whole, showed significant difference in terms of self-efficacy. There was no significant difference in self-efficacy scores between individuals of differing age, $F_{(1, 370)} = 2.08, p = 0.15$. However, results did show that there was a statistical difference in the self-reported GPAs of males and females, $t_{(370)} = 2.56, p = 0.011$, with females having higher numbers than males (see Figure 3). The mean (\pm SE) GPA for females was 3.49 (\pm 0.03) and for males was 3.38 (\pm 0.03).

Discussion

The purpose of this study was to measure the self-efficacy of different ethnic groups at Southern Adventist University, as well as to find the relationship between academic performance and self-efficacy. Findings concluded that there was no difference in self-efficacy among ethnic groups. Furthermore, the results showed that neither academic discipline nor age affects self-efficacy, higher GPA is associated with higher self-efficacy, and that gender plays a role in self-efficacy.

An ANCOVA model was used to assess the data set. The model was used to ensure that all factors were taken into consideration when testing each dependent variable's affect on self-efficacy. With this set-up, each dependent variable was compared to the independent variable of self-efficacy, while keeping all other variables equal. This model was only able to explain 13% of the variance in self-efficacy scores across the data set. Therefore, factors other than the ones tested are responsible for self-efficacy.

Results showed that many factors failed to correlate with self-efficacy. The largest surprise was the lack of differences in self-efficacy score among differing ethnic groups. This is in direct opposition to a previous study by Buchanan and Selmon, which found a difference in self-efficacy between African Americans and Caucasians (2008). The statistical results would suggest that at Southern Adventist University, on average, individuals of different ethnic groups are equally certain of their capabilities. This anomaly may be due to the fact that all selected participants were university students. Perhaps individuals within lower levels of academia or lower socio-economic classes would, in fact, exhibit lower self-efficacy scores. The fact that a disproportionate amount of minority groups fall into this category could skew the data to show some sort of ethnic difference in self-efficacy (Mackell, 2011).

The results also showed that there were no differences in self-efficacy score between different ethnic-group-gender categories. This is to say that the results showed that there are no differences in a White males' belief in his own capabilities as compared to a Black female, and so on and so forth.

Equally surprising, there was no statistical difference in self-efficacy score found between the academic disciplines. All majors on average had the same belief in their own capabilities. Perhaps this is due to the fact that individuals choose a major they are comfortable

with and therefore exhibit high self-efficacy because they are confident in what they do. Articles have shown that many students go into majors that they have an aptitude for and are internally motivated to pursue (Wach et al., 2016). Additionally, the results showed that the age of an individual did not predict his or her self-efficacy score. This may point to the fact that self-efficacy is not dependent on past-experiences, but instead is inherent or based off of childhood experiences. This notion may not be far from the truth, considering that there are genetic influences on personality traits (Lewis, Haworth & Plomin, 2014).

The results did, in fact, find significance in some areas. As predicted, GPA was found to be positively correlated with self-efficacy score and β expressed that as GPA increases by 1, the self-efficacy score increases by 2.73. Because a proxy for GPA (self-reported GPA) was used, it cannot be said that academic performance is directly related to belief in one's own capabilities. Instead, it must be stated that perceived academic achievement is an indicator of an individual's belief in his or her capabilities. These findings mirror that of Peter Metofe, in his 2014 study on African American academic performance and psychological traits.

Results also showed that there was a gender difference in self-efficacy, with men thinking higher of their capabilities than women. However, in the study, the self-reported GPAs of females were higher, on average, than males. This would mean that even though females have higher perceived academic performance than males, they still feel worse about their capabilities. This may be due to construct bias in the creation of the self-efficacy test. Previous research has shown that there are gender differences in terms of perception (Yang et al., 2014). Perhaps, self-efficacy in women should be measured differently.

It must be noted that results may not be indicative of actual facts, due to a number of human constraints. This study had both limitations and assumptions. Firstly, this study was non-

comprehensive. It did not cover every detail of the subject, but instead focused on the aforementioned hypotheses and research questions. Secondly, this study had a time constraint. All planning, data collection, and analysis was completed by December and, for that reason, not all aspects were considered. Thirdly, there was a limited sample size in this study; only undergraduate students from Southern Adventist University were used as participants. Lastly, there was the assumption that participants would truthfully answer the questionnaire.

The whole premise of the research seemed to be falsified by the results of this experiment. The findings of this research showed that African Americans, within University, do not suffer from lower self-efficacy in comparison to other ethnic groups. However, this does not put an end to the idea. Further research may be done on ethnic differences in self-efficacy using populations that are more representative of ethnic groups across the United States. This can be accomplished by surveying a vast array of people in different areas of the United States and compiling self-efficacy scores into a model for analysis.

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Appendix

Table 1

Descriptive Characteristics of Sample

Variable	Mean (SD) or (%)
Age (Min = 17, Max = 49)	19.84 (2.73)
Sex	
Male	177 (45%)
Female	217 (55%)
Ethnic Groups	
Asian/Pacific Islander	73 (19%)
Black	56 (14%)
Hispanic	70 (18%)
White	173 (44%)
Multi-Racial	20 (5%)
Academic Disciplines	
Business	46 (12%)
Divinity	12 (3%)
Formal Science	17 (4%)
Humanities	26 (7%)
Natural Science	151 (38%)
Nursing	44 (11%)
Social Science	32 (8%)
Multi-Discipline	27 (7%)
Undecided	22 (6%)
Class Standing	
Freshman	138 (35%)
Sophomore	119 (30%)
Junior	85 (22%)
Senior	52 (13%)
GPA	3.44 (0.43)
Self-Efficacy Score	32.97 (4.39)

Table 2

Mean Self-Efficacy Scores of Ethnic Group-Gender Combinations

Ethnic Group-Gender Combination	Mean SES (\pm SE)
Asian/Pacific Islander Male	33.97 (\pm .81)
Asian/Pacific Islander Female	31.75 (\pm .62)
Black Male	34.43 (\pm .78)
Black Female	32.72 (\pm .86)
Hispanic Male	33.52 (\pm .69)
Hispanic Female	32.78 (\pm .63)
White Male	33.47 (\pm .42)
White Female	32.49 (\pm .54)
Multi-Racial Male	33.62 (\pm 2.34)
Multi-Racial Female	31.50 (\pm .93)

Note. SES = Self-Efficacy Score

Table 3

Marginal Mean Self-Efficacy Scores for Academic Disciplines

Academic Disciplines	Marginal Mean SES (\pm SE)
Business	33.86 (\pm .84)
Divinity	34.01 (\pm 1.46)
Education	31.58 (\pm 1.27)
Formal Science	32.11 (\pm 1.34)
Humanities	32.98 (\pm 1.03)
Natural Science	33.85 (\pm .50)
Nursing	31.61 (\pm .85)
Social Science	33.59 (\pm .90)
Multi-Discipline	32.09 (\pm 1.20)
Undecided	32.00 (\pm 2.89)

Note. SES = Self-Efficacy Score

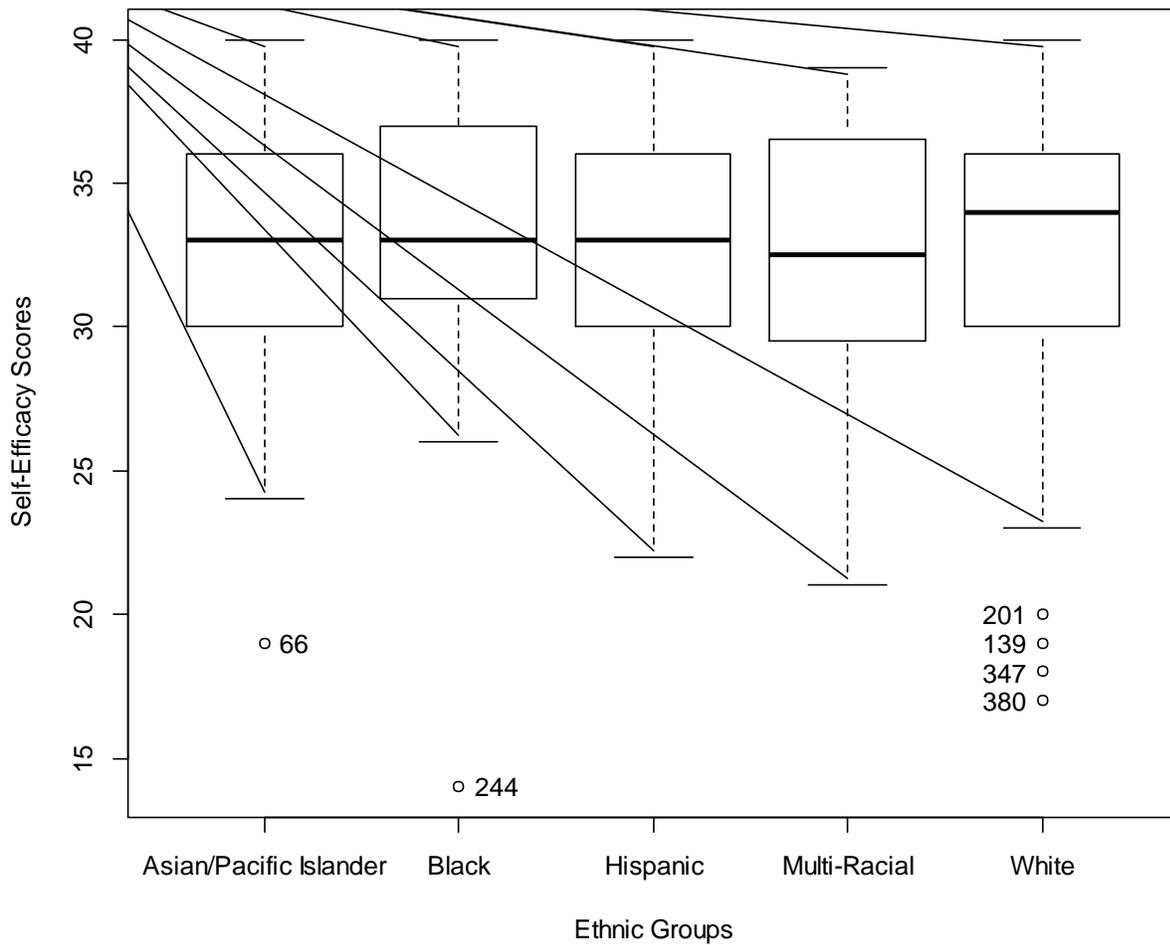


Figure 1. Boxplot of Asian/Pacific Islander ($n = 73$), Black ($n = 56$), Hispanic ($n = 70$), White ($n = 173$), and Multi-racial ($n = 20$) ethnic group categories in relationship to self-efficacy scores at Southern Adventist University. No significant difference in self-efficacy scores was found among groups ($F_{4, 370} = 1.36, p = 0.248$).

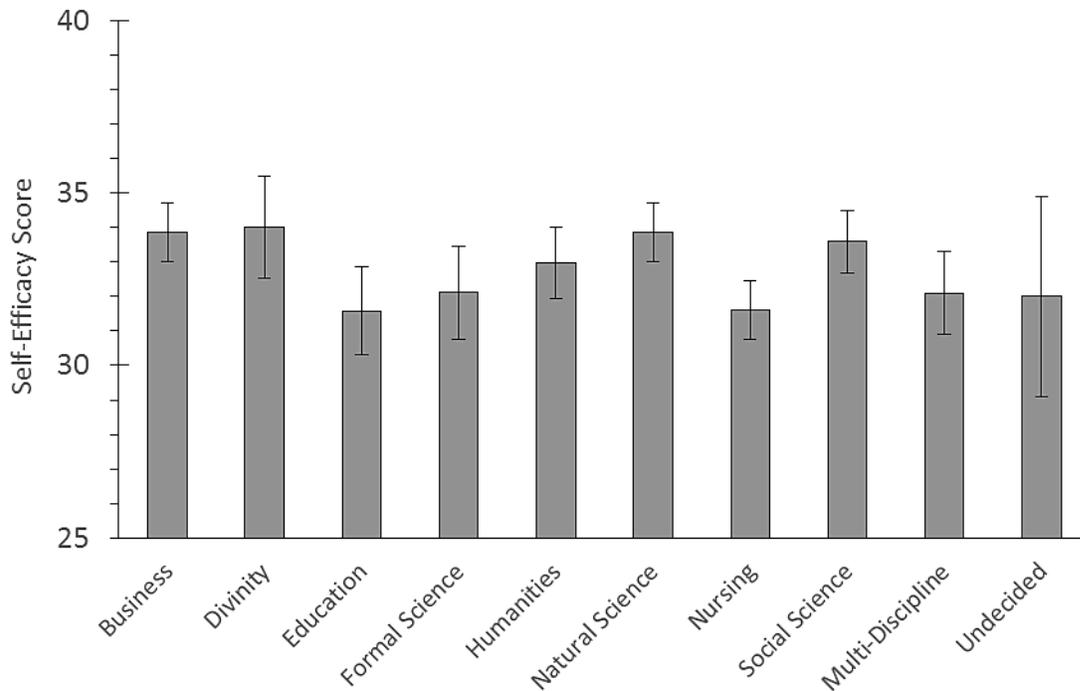


Figure 2. Marginal mean self-efficacy scores (mean within linear model) for Business (n = 46), Divinity (n = 12), Education (n = 17), Formal Science (n = 17), Humanities (n = 26), Natural Science (n = 151), Nursing (n = 44), Social Science (n = 32), Multi-discipline (n = 15), and Undecided (n = 22) academic disciplines at Southern Adventist University. Standard error is represented standard error bars attached to each column. No statistical difference was found among groups ($F_{4, 370} = 1.36, p = 0.248$).

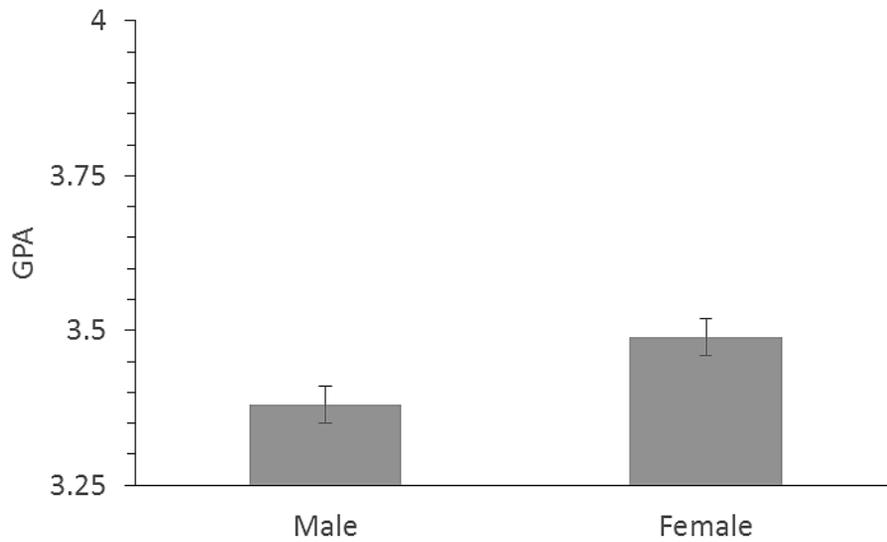


Figure 3. Means of grade point average for males ($n = 177$) and females ($n = 217$) of Southern Adventist University. Standard error is shown by standard error bars attached to each column. Statistical difference was found in GPA between males and females, with GPAs of females being greater ($t_{(370)} = 2.56, p = 0.011$).