

November 2021

## Racial and Ethnic Difference in Music Performance Self-Efficacy Among Undergraduate Students

George W. Shannon li  
*University of South Florida*

Follow this and additional works at: <https://digitalcommons.usf.edu/etd>



Part of the [Other Education Commons](#)

---

### Scholar Commons Citation

Shannon li, George W., "Racial and Ethnic Difference in Music Performance Self-Efficacy Among Undergraduate Students" (2021). *USF Tampa Graduate Theses and Dissertations*.  
<https://digitalcommons.usf.edu/etd/9229>

This Dissertation is brought to you for free and open access by the USF Graduate Theses and Dissertations at Digital Commons @ University of South Florida. It has been accepted for inclusion in USF Tampa Graduate Theses and Dissertations by an authorized administrator of Digital Commons @ University of South Florida. For more information, please contact [digitalcommons@usf.edu](mailto:digitalcommons@usf.edu).

Racial and Ethnic Differences in Music Performance Self-Efficacy  
Among Undergraduate Students

by

George W. Shannon II

A dissertation submitted in partial fulfillment  
of the requirements for the degree of  
Doctor of Philosophy in Music  
with a concentration in Music Education  
School of Music  
College of the Arts  
University of South Florida

Major Professor: Jennifer A. Bugos, Ph.D.  
C. Victor Fung, Ph.D.  
David A. Williams, Ph.D.  
Matthew McCutchen, Ph.D.  
Yi-Hsin Chen, Ph.D

Date of Approval:  
November 16, 2021

Keywords: beliefs, MPSES, CASES, race, achievement

Copyright © 2021, George W. Shannon II

## DEDICATION

*To God,*

who has never led me astray.

*To my mother, Deborah,*

who never stopped praying for me.

*To my aunt, Linda,*

who always encouraged me.

*To my grandmother, Willie Mae Kelly, and great-grandparents, Henry and Viola Parrish,*

who provided the foundation for which I stand,

and

*To my little dog, Baylee,*

who always makes me smile.

## **ACKNOWLEDGMENTS**

*“In all thy ways acknowledge Him, and He shall direct thy paths”* (Proverbs 3:6).

## TABLE OF CONTENTS

LIST OF TABLES .....	iii
LIST OF FIGURES .....	iv
ABSTRACT.....	v
CHAPTER ONE: INTROUDCTION.....	1
Background of the Problem .....	1
Theoretical Framework.....	2
Statement of the Problem.....	3
Purpose of the Study/Research Questions .....	5
Rationale of Study.....	5
Assumptions.....	6
Delimitations.....	6
Definition of Terms.....	7
Summary .....	7
CHAPTER TWO: REVIEW OF LITERATURE.....	8
Bandura’s Social Cognitive Theory.....	8
Motivational Processes .....	13
Cognitive Processes .....	14
Affective Processes.....	14
Selection Processes .....	15
General and Domain-Specific Self-Efficacy .....	15
Academic Self-Efficacy .....	16
Academic Self-Efficacy and Academic Performance.....	20
Academic Self-Efficacy, Race, and Academic Performance.....	23
Music Participation and Academic Performance.....	25
Music Self-Efficacy .....	28
Music Self-Efficacy and Music Performance .....	28
Summary.....	36
CHAPTER THREE: METHODOLOGY .....	37
Participants.....	37
Demographic Data .....	38
Measures .....	38
Music Performance Self-Efficacy Scale (MPSES).....	38
Construction of the MPSES .....	39
Psychometric Properties of the MPSES.....	40
College Academic Self-Efficacy Scale.....	42

Construction of the CASES .....	43
Psychometric Properties of the CASES .....	43
Procedure .....	44
Analysis.....	44
CHAPTER 4: RESULTS .....	46
Descriptive Analyses of the MPSES.....	46
Research Question One.....	49
Relationship Between MPSES and CASES .....	51
Research Question Two .....	52
Predictors of Music Performance Self-Efficacy .....	54
Research Question Three .....	54
Summary .....	60
CHAPTER 5: DISCUSSION.....	61
Race and Self-Efficacy in General Education .....	61
Race and Music Education in the United States .....	64
Ethnicity and Self-Efficacy.....	66
Limitations .....	67
Implications.....	67
Future Research .....	70
REFERENCES .....	72
APPENDIX A: PARTICIPANT SELF-REPORT DEMOGRAPHICS FORM.....	90

## LIST OF TABLES

Table 1:	MPSES Descriptive Statistics by Race .....	47
Table 2:	MPSES Descriptive Statistics by Ethnicity .....	48
Table 3:	Descriptive Statistics for CASES.....	52
Table 4:	Correlations Between CASES and Sources of Self-Efficacy on MPSES.....	54
Table 5:	Descriptive Statistics by Demographic Data on MPSES.....	58
Table 6:	Coefficients of Predictors on MPSES.....	59

## LIST OF FIGURES

Figure 1:	MPSES Boxplot by Race .....	48
Figure 2:	MPSES Boxplot by Ethnicity .....	49
Figure 3:	CASES Boxplot by Race .....	52
Figure 4:	CASES Boxplot by Ethnicity.....	53
Figure 5:	MPSES Boxplot by Classification.....	55
Figure 6:	MPSES Boxplot by Major .....	56
Figure 7:	MPSES Boxplot by Years of Participation.....	56
Figure 8:	MPSES Boxplot by Hours of Practice (Weekly).....	57
Figure 9:	MPSES Boxplot by Years of Private Instruction.....	57



## ABSTRACT

**Musical self-efficacy** is an area that has been studied in areas such as music performance (McCormick & McPherson, 2000; Zelenak, 2011) and music achievement (Zelenak, 2019). McPherson and McCormick (2006) conclude that the relationship between music self-efficacy and music performance is significant. With this understanding, the present study will determine if there is a significant difference by race or ethnicity in music performance self-efficacy among undergraduate students. Researchers have long reported the need for additional racially diverse studies in educational research with newer studies needed in music. Using the Music Performance Self-Efficacy Scale (MPSES), African-American, Caucasian, and Mixed responded to a series of questions about their self-efficacy for music performance. Participants also completed the College Academic Self-Efficacy Scale (CASES), indicating their self-efficacy for academic-related tasks and behaviors. Finally, basic demographic information was collected and used as categories to analyze the data. A MANOVA revealed a significant ( $p < .001$ ) difference in the MPSES by race but not ethnicity. Pearson's  $r$  showed the strongest correlation between the CASES and Vicarious Experiences on the MPSES. The multiple regression identified "race" as the most significant predictor of one's score on the MPSES, followed by "Years of Private Instruction." The data suggest that African-American undergraduate students have a lower degree of self-efficacy for music performance than their peers, which may be due to systemic educational issues, such as equal opportunity and equitability of resources.

# CHAPTER 1

## INTRODUCTION

### **Background of the Problem**

“For students to meaningfully involve themselves in learning for sustained periods, sufficient self-efficacy is required” (Margolis & McCabe, 2004, p. 248). Self-efficacy has been studied in areas regarding academic outcomes (Multon et al., 1991), specific academic areas (Cole & Denzine, 2004), and academic motivation (Bong & Clark, 1999). Regarding academic studies in music, McPherson and McCormick (2000, 2006) specifically noted that musical performance self-efficacy was a stronger predictor of musical achievement than general self-efficacy; however, this study did not examine minority populations where there is still a gap in the literature and a need for more studies (Graham, 1994). Similarly, it has been found that musicians with a high self-efficacy are also believed to have higher levels of knowledge and skills in music performance than their counterparts (Clark, 2008; Hendricks, 2009; Hewitt, 2015; McCormick & McPherson, 2003; McPherson & McCormick, 2000). Although these studies arrive to a general conclusion, the racial differences in music performance self-efficacy were not addressed.

Graham’s (1994) review of the literature reveals there has been a lack of motivational psychology research that includes African American students in comparison to White students. Although researchers have cited that academic self-efficacy is a predictor of collegiate achievement (Bandura, 1997; Combs, 2001; Gainor & Lent, 1998; Pajares, 2002; Schunk, 1983), studies conclude that the self-efficacy of minority students in undergraduate programs is lower in

comparison to non-minority peers (Brower & Ketterhageng, 2004; Combs, 2001; Cuyjet, 1997; Laar, 2000; Mayo & Christenfeld, 1999).

In a study examining achievement among African-American males in college, Reid (2013) showed that the strongest direct effect on achievement among all factors considered in high-achieving African-American males was self-efficacy. This is consistent with earlier work by Graham (1994) who concluded that African-American students, despite being socially and economically disadvantaged, remained optimistic and had a positive self-regard. While Reid (2013) noted the African-American males with high academic achievement, Graham's (1994) earlier evidence shows that academic self-beliefs of African-Americans are strong, even when the student is underperforming in comparison to their peers. Lastly, Graham's (1994) findings also suggested that the academic self-beliefs of White students are not as strong as African-American students and, in some cases, African-American students surpass their White counterparts.

While Graham (1994) highlighted the importance and higher levels of self-efficacy in African-American students, not all researchers have concluded similar findings. For example, when mathematics self-efficacy was studied, Pajares and Kranzler (1995) found that it was lower in African-American students than their White peers and also noted in a later study that writing self-efficacy of Hispanic students was lower than non-Hispanic students (Pajares & Johnson, 1996). As affirmed by Graham (1994), self-efficacy is an important part of academic motivation, but more studies need to be done in this area regarding minority students.

### **Theoretical Framework**

Bandura (1977b, 1997a) defines self-efficacy as an individual's belief about one's ability to perform various tasks and the judgment of one's capabilities to execute the task, and McPherson and McCormick (2000) confirmed that this theoretical model is task or domain-specific rather than

general. The four components of Bandura's model, enactive attainment (mastery experiences), vicarious experience, verbal persuasion, and physiological states (Zimmerman, 2000) are factors that influence one's self-efficacy. People tend to do things that they feel are attainable with a sufficient feeling of success (Schunk & Pajares, 2004). Bandura believed that mastery experiences were the strongest factor in the development of one's self-efficacy as it provided the "most authentic evidence whether one can muster whatever it takes to succeed" (Bandura, 1997, p. 80). While Bandura was able to show this, studies in music still rely on self-efficacy as a predictor of achievement. Nevertheless, some researchers, like Hewitt (2015) found a moderate correlation between self-efficacy and music performance among middle school bands; however, this relationship is not causal as Schunk (1995) found students with high self-efficacy do not produce competent performances when they lack skills and knowledge to complete the task sufficiently.

Comparative studies in self-efficacy noted differences by age (Pajares & Valiante, 1999; Usher & Pajares, 2009), sex (Matusi et. al., 1990; Usher & Pajares, 2006), type of school (Aydin & Uzuntiryaki, 2009), and national identity (Pastorelli et. al., 2001). Bandura (1997) did note that schools do play a role in the development of one's self-efficacy and, could be a factor in the level of self-efficacy among college students in performing ensembles. Although this variable is not tested in this study, the present investigation does examine racial and ethnic differences, as standard test variables in other studies.

### **Statement of the Problem**

While academic self-efficacy is considered a significant predictor in college achievement (Bandura, 1997; Combs, 2001; Gainor & Lent, 1998; Pajares, 2002; Schunk, 1983), studies that examine racial and ethnic differences in the area of music performance are not as numerous. Researchers such as Zelenak (2010, 2015) and Hendricks (2014) who studied participants in music,

have examined differences in self-efficacy regarding secondary school students, but these studies have not been replicated at the collegiate level. With the research that is available in other disciplines, those studies consistently show lower levels of self-efficacy among racial minority undergraduates (Brower & Ketterhageng, 2004; Combs, 2001; Cuyjet, 1997; Laar, 2000; Mayo & Christenfeld, 1999) like Pajares and Kranzler (1995) who discovered that mathematics self-efficacy of African-American students was lower than their White peers. To further support this finding, Pajares and Johnson (1996) were able to illustrate the differences in writing self-efficacy in Hispanic and non-Hispanic students. They showed Hispanic students not only had lower levels of self-efficacy than their non-Hispanic counterparts but were also more apprehensive about writing.

Since comparative studies regarding music performance self-efficacy between races and ethnicities are not as plentiful, it is for this reason that additional research needs to be done. While the present research does shed some interest into the topic at hand, it does not fully illustrate the differences in music performance self-efficacy of undergraduate music students amongst minority and majority students. Graham (1994) noted that despite the obstacles African-American students face, their self-regard and self-beliefs are stronger than their White peers with similar findings of Hispanic-American students as well (Lay & Wakstein, 1985; Stevenson et al., 1990). Collectively, their research suggests a historical resilience in the face of adversity, particularly academically, that may tap into issues surrounding social justice and equality; however, a definitive conclusion cannot be inferred. Nevertheless, these findings should not be generalized to all domains of self-efficacy with further testing and research needed in areas like music performance.

## **Purpose of the Study/Research Questions**

The purpose of this study is to examine the differences in music performance self-efficacy between race and ethnicity among undergraduate performing ensembles. This finding will add to the body of research concerning differences in self-efficacy regarding race and ethnicity. Furthermore, since research showed a correlation between music and academic achievement, the research seeks to understand the strength in the relationship between music performance self-efficacy and academic self-efficacy. Researching these two areas together will help to illuminate whether academic self-efficacy is a factor that is strongly related to music performance self-efficacy. The last item of this investigation is to determine what other variables, such as gender, race, ethnicity, classification, major, etc., are predictors of music performance self-efficacy. The following questions were used to guide this study and address the matter at hand:

1. Does a significant difference by race or ethnicity exist in music performance self-efficacy among undergraduate students in performing ensembles?
2. What is the strength in the relationship between music performance self-efficacy and academic self-efficacy?
3. Which variable is most significant in predicting music performance self-efficacy?

## **Rationale of Study**

Studies regarding self-efficacy in music are often associated with academic or music achievement; however, these studies are often conducted in middle-class, Caucasian music settings. Additionally, studies regarding self-efficacy are conducted with participants from K-12. This study considers racial and ethnic differences at the collegiate level to better understand self-efficacy at this level within music. The rationale for using a domain-specific measure to test the variable is researchers have concluded using a domain-specific test increases the accuracy of

prediction in the performance rather than assessing general self-efficacy (Bandura, 1997; Feldman & Kubota, 2015). Therefore, with this study, it is my intent to bring light to an area of research that needs more testing (Graham, 1994, Reid, 2007), specifically in music.

### **Assumptions**

The assumptions of this study are as follows:

1. All participants responded to the questions on both measures with truth and honesty, with no external influences.
2. All respondents are undergraduate students attending a post-secondary institution in the United States, having participated in a performance ensemble as outlined by the study criteria.
3. Since the participants attend a post-secondary institution, it is assumed that almost all participants would score generally high on the academic self-efficacy measure.

### **Delimitations**

This study presents a few delimitations that must be addressed. For example, the researcher acknowledges that all races will not be included in this study, only those that are African-American/Black, Caucasian/White, and Two or more races/Mixed. Therefore, the data presented after this study must consider that this does not cover all races. Another delimitation is the way participants can take part in the study. Only those that are enrolled in a university-registered ensemble can take part. This excludes participants who perform in ensembles outside of the school curriculum, large or small.

## **Definition of Terms**

The following is a list containing the definition of terms used throughout this study:

**Academic self-efficacy:** A person's belief to be successful at a specific academic task (Bong & Skaalvik, 2003).

**Music self-efficacy:** The perception of one's competence to perform in front of an audience or to prepare such a performance via a learning process (Ritchie & Williamon, 2011).

**Minority:** Differences by race, such as African-American/Black, Caucasian/White, and Two or more races/Mixed.

**Self-efficacy:** An individual's belief about one's ability to perform various tasks and the judgment of one's capabilities to execute the task Bandura (1977b, 1997a).

## **Summary**

Research in self-efficacy has been examined across many variables such as age, sex, academic subject, and many other areas; however, these studies have been conducted at the K-12 education level. Additionally, the participants are generally Caucasian students from middle-class families; therefore, the data do not truly reflect the diversity within music programs and populations. The present study seeks to examine the differences in music performance self-efficacy among undergraduate students, specifically looking at the factors of race and ethnicity. The study also seeks to know if there is a correlation between music self-efficacy and academic self-efficacy and also to determine if there are predictors that are significant in predicting music self-efficacy. The following chapter expounds upon the theoretical framework as well as highlights previous research regarding self-efficacy in both areas of interest along with race.



## CHAPTER 2

### LITERATURE REVIEW

#### **Bandura's Social Cognitive Theory**

Bandura's publication of *Social Learning Theory* (Bandura, 1977a) asserts observation, imitation, and modeling are all components of the total learning process. His Social Learning Theory posits that human behavior continually interacts with cognitive, behavioral, and outside factors. To further test his theory, Bandura studied people with phobias and discovered that people who developed a positive outcome expectancy did not make the transfer outside of the laboratory. He concluded that these participants contained different perceived capabilities (Zimmerman, 2000). This positive expectancy led Bandura to insert "self-efficacy" as a vital component to social cognitive theory (Bandura, 1977b, 1986; Pajares, 2002). Pajares (2002) asserts that humans are self-organizing, proactive, self-reflecting, and self-regulating, stating that the social cognitive theory believes that humans are independent beings who can regulate thoughts, actions, and feelings that affect behavior (Bandura, 1986).

Bandura (1977b, 1997a) defines self-efficacy as an individual's belief about one's ability to perform various tasks and the judgment of one's capabilities to execute the task. The four types of self-efficacy: enactive attainment (mastery experiences), vicarious experience, verbal persuasion, and physiological states (Zimmerman, 2000) are factors that influence one's self-efficacy. For this research, *enactive attainment* will be referred to as *mastery experiences*. Mastery experiences are the result of one's personal experience in attaining a task, and it is suggested as

the most significant source of self-efficacy due to its' personal nature. If a person has experienced success on a previous task, this leads to more confidence in the future on similar tasks, conversely for past failures (Bandura, 1986; Schunk, 1989b). This is especially true for students who participate in music classes, particularly those that are beginning instrumentalists. As stated by Bandura (1986) and Schunk (1989), when students personally experience success on their instrument or at a skill in music class, these students continue pursuing more difficult tasks to reach greater achievement and skill. This may be influential to the reason why students participate in performance ensembles in post-secondary schools; however, this conclusion is not definitive as members join performance ensembles for multiple reasons and beliefs. Mastery experiences allow the person to mentally process the various components to complete the tasks and make determinations regarding the effort-to-reward ratio based on personal capabilities. This is somewhat similar to vicarious experiences, but in that case, it is a comparison of an external member to the person who will have to complete the same or similar task.

Vicarious experience is a person's ability to judge their success based on the capabilities and level of success by a person who is of similar skill set (Bandura, 1977), and having a successful role is directly relational to help raise one's self-efficacy beliefs (Pajares, 2002). This differs from mastery experiences as the person must first assess their skill in comparison to someone else, analyze the task the other person will attempt, and measure the amount of effort needed by the other person to complete the tasks. Lastly, the person must decide whether the task can be completed based on a full assessment of the other person's experience. In mastery experiences, while a person may follow a similar thought process, no other example is used for the person to make judgments in comparison to the effort expended by someone else. Schunk (1981) noted that participants who observed others perform a task had a higher self-efficacy than those who received

verbal instructions. Schunk clarified that if the person who is performing the task appears more capable than the observer, then the self-efficacy of the observer will be inversely impacted.

Verbal persuasion is also a component of self-efficacy; however, depending on the source of encouragement may have an impact on the credibility and validity of the praise (Zimmerman, 2000). Extensive studies have looked at the influence of teacher self-efficacy on student achievement (Freeman, 2008; Shahzad & Naureen, 2017) and motivation (Ford, 2012; Mojavezi & Tamiz, 2012). Bandura (1993, 1997) notes that self-efficacy is associated with teacher motivation which, in return, impacts student achievement. A teacher's negative comments can have an adverse effect on student achievement as it is easier to weaken self-efficacy beliefs with negative praise than to increase with more positive praise (Morris, 2004). Relating to this study, a teacher's self-efficacy beliefs for their students can encourage or dissuade students from pursuing more difficult tasks in music classes and/or result in the student's termination in participation. Though not as strong of a predictor of achievement as mastery experiences, verbal persuasions do show influence in studies regarding self-efficacy beliefs, for example, of teachers and student outcomes. People, such as family, professors, or peers, who provide verbal judgments that affirm that the capabilities of the other person performing a task can lift one's perceived self-efficacy (Pajares, 2002)

Lastly, one's self-efficacy is also influenced by the physiological state, like anxiety, and stress which are considered negative states, that affect the perceptions of one's abilities (Pajares, 1997). Numerous studies have been done examining music performance anxiety, for example, in studies where students take music exams (Cleary, 2013), studies examining the role of music performance anxiety and its' effect on gender and age (Dempsey & Comeau, 2019), and comparing music performance anxiety of music and non-music major undergraduate students (Robson &

Kenny, 2017). Research has shown that physiological factors like performance anxiety negatively affect the participant's self-efficacy, with more efficacious students enduring longer despite the difficulty of the tasks and experiencing less anxiety (Bandura, 1986; Pajares, 1996a; Zimmerman, 2000). Pajares (1997) further concludes that emotional reactions to a task could be interpreted as predictive of the overall outcome. Therefore, participants who demonstrate an elevated level of performance anxiety, for example, have a greater probability of doing poorly in the performance due to the debilitating nature of performance anxiety and the physiological response that occurs. In academia, this snowball effect results in the person having a lowered sense of self-efficacy for the entire subject (Reid, 2007). This is the onset of a declining trend as the student becomes less motivated and eager to put forth the effort required to complete the task leading to a lack of confidence and lower performance outcomes intertwined (Bandura, 1997; Pajares, 2002).

In Bandura's research, he used self-efficacy as a vehicle to assess the level (difficulty of tasks), generality (how well self-efficacy beliefs transfer into different domains), and strength (a person's degree of certainty) in different contexts (Zimmerman, 2000). Since self-efficacy is positioned on a person's mastery of a task and not on a normed assessment, Bandura (1986), Pajares (1996), and Schunk (1989a) agree that those with a higher self-efficacy learn and achieve more than those with a lesser degree of self-efficacy when the actual abilities levels are the same. Self-efficacy focuses on a person's performance capabilities, only studying their belief as to their level of success in completing a task (Zimmerman, 2000).

Self-efficacy is believed to influence a specific task or skill level instead of overall; however, generalized self-efficacy can be applied broadly when multiple domains have a high self-efficacy which leads to mastery in other domains (Bong & Skaalvik, 2003; Schunk & Pajares, 2004). It is important to note the difference between self-efficacy and self-esteem or self-concept.

The latter two are more general affective evaluations of behavior while self-efficacy is a task-specific evaluation (Pinnebrink & Pintrich, 2002a). Bong and Skaalvik (2003) define academic self-efficacy as a person's belief to be successful at a specific academic task. Bandura (1997) noticed that students who had higher self-efficacy work harder and persist longer than students with low self-efficacy. Students who deemed themselves more capable set challenge goals, self-managed their time, and solved conceptual problems than students who are not as efficacious (Zimmerman & Bandura, 1994).

Self-efficacy for learning, which is future-oriented, and self-efficacy for performance, which is self-judgment of current skill, are the two types of academic self-efficacy (Lodewyk & Winne, 2005; Schunk & Pajares, 2004). Not only do students with a higher self-efficacy engage in more difficult academic tasks (Andrew, 2019), but also positively influences skill acquisition (Schunk, 1981), serving as a mediator between persistence and academic achievement (Zimmerman, 2000). Self-efficacy has been used as a predictor of achievement in young musicians (McPherson & McCormick, 2006) and is associated with the degree to which children are involved in music (Katsochi, 2001). Bandura (1986) also found that motivation plays a role in self-efficacy in that people predict their outcome based on their perceived self-abilities, with people with a high self-efficacy around similar peers will lead to success while low self-efficacy leads to failure (Ormond, 2008).

The use of self-regulatory processes such as goal-setting (Zimmerman, 2000), setting challenging goals for themselves (Zimmerman, Bandura, & Martinez-Pons, 1992), and employing learning strategies (Zimmerman & Martinez-Pons, 1990) are all characteristics of high self-efficacious students. In music, this is extremely important as students need to be reflective on their

skills at a young age in addition to being independent to complete music tasks, self-correct, and repeat several processes continually.

In Bandura's additional research and testing of his Social Cognitive Theory, he (1994) later identified four psychological processes where self-efficacy is manifested in human behavior. According to Bandura (1994), self-efficacy affects the cognitive process, which is defined as how one thinks, the motivational processes which determine a person's level of motivation, affective processes that are used to manage and control one's anxiety, and the selection processes that are used to determine the choices made in one's life.

### *Motivational Processes*

The seminal work of Bandura is fundamental to other researchers who also examine self-efficacy. For example, The Expectancy-Value Theory first studied by Atkinson (1964) and later by Wigfield and Eccles (2002) asserts that effort and value are connected in such a way that one's effort is dependent upon the value placed in it (Wigfield & Eccles, 2000). Self-efficacy is a focal to this research as it suggests that a person's values and expectations may be shaped by their past experiences (Bandura, 1994), a factor of *mastery experiences*. As Bandura (1977, 1994) concluded, a person who experiences past failures on a certain task will experience lower levels of self-efficacy in the mastery experiences domain. Additionally, if a peer fails a task where one feels that the skills and abilities are similar, failed experiences also may affect self-efficacy specifically in the vicarious experiences' domain. When students believe that they are less likely to succeed on a task, the Expectancy-Value Theory suggests a student will allocate a lower value associated with the task (Jacobs et al., 2002).

### *Cognitive Processes*

In this area, Bandura (1994) asserts that self-efficacy becomes evident in personal goal-setting and how a person views their outcomes. It was later concluded that those with a higher degree of self-efficacy are high goal-setters and can visualize their success in the end while ensuring that the stamina and duration for the task are sufficient to endure (Bandura, 1994). Bandura's (1994) research also found those with exceptional analytical thinking skills and who set high goals for themselves can envision lasting results of positive performance outcomes. Dweck (1999) later expanded on Bandura's cognitive processes and stated that one's intelligence can change over time; however, it is relational to the mindset of the person. Thus, people with a growth mindset realize that intelligence and capacity can develop through time. Additionally, those with a growth mindset do not observe failure as defeat, but as opportunities where significant learning occurs (Dweck, 1999).

### *Affective Processes*

The manifestation of self-efficacy comes in one's belief in their personal ability to maneuver through stressful situations (Bandura, 1994). This has been studied extensively in areas like music performance anxiety. Dependent upon the level of anxiety that arises when a person assesses their ability to handle stressful situations also determines their choice to take part in the matter (Bandura, 1994). If one has concluded that they are unable to manage the level of stress, negative outcomes are imagined thus causing the increase in anxiety (Bandura, 1994). Research has shown a negative correlation between self-efficacy and music performance anxiety (Robson & Kenny, 2017) and later found self-efficacy to be a significant predictor of music performance anxiety in students (Liston et. al., 2003).

### *Selection Processes*

Self-efficacy manifests itself by influencing decisions regarding learning environments and continued involvement in music activities. Bandura (1994) defines this as choices involving the type of activity, the level of difficulty, and the environment in which a person opts to engage. It is suggested that the outcome of one's life is determined by their decision to grow and develop from challenges or remain stationary in a place where one has a greater ability to function and cope (Bandura, 1994).

### **General and Domain-Specific Self-Efficacy**

Pajares (1996) defines generalized self-efficacy as the assuredness in one's ability to successfully carry out a general task. Judge et al. (1998) extend upon Pajares' (1996) definition and states that it is the "individuals' perception of their ability to perform across a variety of different situations" (p. 170). Two measures that have been widely accepted and used to study general self-efficacy are the General Self-Efficacy Scale (Sherer et al., 1982) and the Generalized Self-Efficacy Scale (Schwarzer & Jerusalem, 1995). Although these measures have been tested and used extensively, they do not provide specific results into a particular domain of self-efficacy, like music or mathematics; therefore, definitive conclusions regarding one's self-efficacy in a specific area are not accurate since the measures were created to provide a general overview or reflection of a person's self-efficacy.

To accurately illustrate the dimension of one's self-efficacy in a specific domain, Bandura (1997) recommended researchers create tools to assess the variables in question. For example, if a researcher is concerned with the self-efficacy of participants on music performance, then tools should be created that are uniquely sensitive to this domain. General self-efficacy scales do not accurately capture the beliefs of the participant operating in that domain. Instead, those measures



provide a picture of the person's overall perspective and beliefs about completing tasks in general. Participants may feel more capable performing everyday tasks such as remembering appointments or driving safely on the road than something specialized like participating in music ensembles or performing a solo on an instrument. Thus, according to Bandura, researchers will not gain precise insight into the person's self-efficacy within a specific domain only including general self-efficacy measures. Researchers have concluded that domain-specific self-efficacy measures have greater accuracy in predicting performance than generalized self-efficacy (Bandura, 1997; Feldman & Kubota, 2015) since judgments of self-efficacy depend on the demands of the specific task (Pajares, 1996).

### **Academic Self-Efficacy**

Researchers define academic self-efficacy as an individual's belief that they can successfully achieve at a designated level on an academic task or attain a specific academic goal (Bandura, 1997; Eccles & Wigfield, 2002; Elias & Loomis, 2002; Gresham, 1988; Linnenbrink & Pintrich, 2002a; Schunk & Pajares, 2002) and is associated with achievement-related behaviors and results (Reid, 2007). As inferred, academic self-efficacy is rooted in the construct of self-efficacy (Bandura, 1977) and has been conducted in areas such as academic outcomes (Multon et al. 1991), learning in academic areas (Cole & Denzine, 2004), and academic motivation (Bong & Clark, 1999). Bandura's (1977) theory purports that academic self-efficacy differs depending on the difficulty of the tasks. For example, in a study comparing students who are highly efficacious to those conversely, Schunk and Pajares (2001) observed that students with higher self-efficacy for learning or performing a task are more participatory, persistent, work harder, and reach greater success. Linnenbrink and Pintrich (2002a) concluded that self-efficacy may be situational in nature rather than as an unwavering trait.

Research has been conducted pertaining to the relationship between academic self-efficacy and academic performance (Bandura, 1997; Pajares, 1996; Schunk, 1995). For students to engage in meaningful learning experiences, Margolis and McCabe (2004) conclude that a sufficient amount of self-efficacy is required. Thus, their research suggests that when students are equipped with high levels of self-efficacy that it is correlational to their academic performance, as was found in a study conducted by Multon et al. (1991) who discovered a significant positive relationship between academic self-efficacy and academic performance. To further defend this claim, Schulz (2005) realized that self-efficacy provided a stronger relationship to mathematics achievement than other self-constructs. Specifically pertaining to self-constructs, Pietsch et al (2003) noted that mathematics performance and academic self-efficacy was more related than general self-concept. This is supported by Schulz's (2005) study that illustrated how correlational scores of self-efficacy were greater than those of other theories on self-belief.

While the previous research mentioned specifically addressed academic self-efficacy and mathematics achievement, another area that has produced similar results is learning of foreign languages. For example, Bouffard-Bouchard (2001) conducted a study with college language students showing how self-efficacy influenced the performance of the participants. The researchers found a positive relationship between students with high self-efficacy and their success in solving linguistic problems (Bouffard-Bouchard, 2001). Although one may assume that college students would naturally have a higher academic self-efficacy because of the rigor required for course work, Bouffard-Bouchard (2001) effectively manipulated self-efficacy by using instructional feedback to induce high and low levels of self-efficacy. Bouffard-Bouchard (2001) is not the only researcher who has used external factors to impact self-efficacy. Wagman (2005), who found similar results to Bouffard-Bouchard (2001), found that self-efficacy increased for students who were studying

Latin when the material directly related to the topic and when study habits were changed. These studies illustrate that external factors do have an influence on academic self-efficacy as several studies have noted the influence of goal-setting in academic self-efficacy area as well.

According to Zimmerman and Bandura (1994), goals are impacted directly and indirectly by self-efficacy as it relates to achievement. Goals that are specific and attainable enhance a person's self-efficacy as opposed to those that are vague and extend over long periods of time (Zimmerman et al., 1992). This may be due to the amount of self-efficacy needed to engage for sustained periods of time as noted by Margolis and McCabe (2004). Since goals are time-oriented, individuals who are initially lacking in self-efficacy may not have the endurance required for long-term goals; thus, researchers have noted higher self-efficacy for those who set short-term and challenging, yet attainable, goals (Zimmerman et al. 1992). Furthermore, as people measure their progress in achieving goals, their self-efficacy strengthens, which motivates them to continue improving to reach the mark (Schunk, 1995). Vicarious experiences are especially critical in this area since the observation of others with similar skill has also been seen to positively affect academic self-efficacy (Schunk & Hanson, 1985; Schunk et al. 1987). These models provide validation to the observer that they too are capable of learning and achieving similar goals (Schunk & Pajares, 2001).

A key area of research in education is academic self-efficacy's ability to predict academic performance or achievement. As noted by Pintrich and DeGroot (1990), self-efficacy is positively related to predicting academic achievement and is deemed an important predictor of performance in academia (Bong & Clark, 1999; Yassir, 2006). Research in mathematics performance, Pajares and Miller (1994) showed that mathematics self-efficacy served as a better predictor of mathematics performance than self-concept in mathematics, math anxiety, perceived usefulness of

mathematics, and prior experiences. Additionally, the researchers were able to show the direct effect of mathematics self-efficacy on mathematics performance (Pajares & Miller, 1994) as did Schunk (1981) who used a path analysis to replicate correlations of participants engaged in a long-division instructional treatment group. Not only were the results of these two studies similar, but Schunk's (1981) study showed self-efficacy's effect on persistence may be related to goal setting and the required amount of self-efficacy needed to engage for a prolonged period of time (Margolis & McCabe, 2004). All of these studies showed the positive relationship between academic self-efficacy and academic performance; however, in the area of gender differences, the findings in this area are mixed.

Various factors confound the research pertaining to gender and academic self-efficacy, as when controlling for previous achievement (Pajares, 1996). Although the achievement gap between boys and girls is diminishing (Eisenberg et al., 1996), academic subjects related to math, science, and technology are more favored by boys than girls (Meece, 1991; Pajares & Miller, 1994; Wigfield et al., 1996). As related to these studies, Wigfield et al. (1996) noticed differences in the approach that boys and girls used to respond to self-efficacy measures. In this study, girls were more modest while boys took a self-congratulatory approach (Wigfield et al., 1996). While it could be interpreted that boys naturally have a more masochistic personality than girls, this still does not fully explain these differences. For example, some researchers have concluded that these differences are not of gender, but of gender orientation which are stereotypic beliefs about gender that children perceive to be true instead of gender itself (Eisenberg et al., 1996; Hackett, 1985; Harter, Waters, & Whitesell, 1997; Matsui, 1994).

There has been some literature to show that differences between gender do emerge when children migrate from primary to secondary school as self-efficacy beliefs decline in girls (Eccles

& Midgley, 1989; Wigfield, et al., 1991; Wigfield et al., 1996). Students develop more gender-specific attitudes and associate specific academic subjects to gender. For example, Schunk and Pajares (2001) found that Language Arts and feminine orientation are connected because most students view writing as a female domain as opposed to more masculine-oriented subjects like mathematics, science, and technology (Eisenberg et al., 1996). Eccles (1987) and Hackett (1985) both conclude that masculinity is directly related to confidence and achievement since success is viewed as a masculine trait.

#### *Academic Self-Efficacy and Academic Performance*

Self-efficacy has been particularly interesting to researchers in the education field, and has been tested using a variety of populations including early years (Joët, Usher, & Bressoux, 2011), high school (Alivernini & Lucidi, 2011), university populations (Robbins et al., 2004) and also in specific academic areas such as algebra or geometry problems (Zimmerman & Martinz-Pons, 1990), self-efficacy for successful performance and attainment of a specific grade in a subject (Neuville, Frenay, & Bourgeois, 2007), and self-efficacy for general success within a university course (Cassidy & Eachus, 2002; Pintrich & DeGroot, 1990). Studies analyzing academic self-efficacy and academic performance have shown strong positive correlations (Pajares & Miller, 1994; Meral et. al., 2012; Yokoyama, 2019). Some researchers (Andrew, 1998; Nasir, 2019) have used academic self-efficacy as a predictor of academic achievement . The following studies address this area of research.

Research examining the predictability of academic self-efficacy on academic performance and meta-analyses have reported moderate effect sizes (Richardson, Bond, & Abraham, 2012; Robbins et al., 2004). In a 2012 study, Richardson et al. noted that academic self-efficacy accounted for almost nine percent of the variance in the overall GPA for collegiate students, which

is critical to this investigation as the study population is undergraduate college students. Similarly, Nasir and Iqbal (2019) saw that self-efficacy explained up to 31% of the variance and 12% of the actual GPA. Both studies illustrate the strong predictive power of academic self-efficacy on academic performance. Furthermore, it can be concluded that a student's academics can be predicted from their self-efficacy; however, to support this claim, additional research regarding the predictability of academic self-efficacy will be discussed.

In continuing with GPA, DeFreitas (2012) utilized a cross-sectional research design to assess participants, who were administered a Self-Regulated Learning Scale of the Multidimensional Scales of Perceived Self-Efficacy (Bandura, 1990), to show that self-efficacy was predictive of GPA ( $\beta = .29, p < .05$ ). Like DeFreitas (2012), Weiser and Riggio (2010) also noted that ASE was a significant predictor of GPA ( $R^2 = .09, p < .01$ ) but also discovered that ASE positively mediated between achievement and parental involvement. Although it may be assumed that external factors could influence GPA, as noted by Weiser and Riggio (2010), the fact remains clear that in analyzing performance solely predicted by ASE is strong; however, GPA takes time to produce. Galyon et al. (2012) found no significant relationship regarding ASE and performance at the beginning of the course; however, the study did report significance midway through course. Aligned with these findings, researchers have also brought light to how ASE predicts student grades in a specific course to draw similar conclusions.

Collegiate students are the focus of this study and there is literature that specifically speaks to this population pertaining to ASE and grades. For example, Lynch (2006) self-efficacy served as a predictor of grades for both freshman students ( $R = .405$ ) and upper-level students ( $R = .434$ ). ASE, though, did not serve as the only factor to influence grades as extrinsic goal orientation and effort were also applied and manifested in the results. Since the researcher did not control for

these variables, the extent to the predictive nature of ASE on student grades is unclear; however, DiBenedetto and Bembenuddy (2011), controlled for external variables and concluded that self-efficacy was a predictor of final course grade which accounted for eight percent of the variance. When the researchers added “delay of gratification” back to the equation, the results became non-significant which shows the strength of ASE to serve as a predictor on its own. The following studies examine self-efficacy in performance (Fang, 2014; Feldman & Kubota, 2015).

Liem et al. (2008) concluded that students who demonstrate a higher level of self-efficacy not only engage in deeper learning opportunities, but they also exhibit more positive social behaviors (Bandura, 2006), are more engaged and spend greater time on learning (Eccles et al., 1993). In the Tabak et al. (2009) study, not only was self-efficacy correlated to course performance ( $r = .35, p < .01$ ), but that it also had a mediating effect between conscientiousness and performance. Furthermore, ASE more strongly correlated to performance ( $r = .59, p < .01$ ) than general self-efficacy ( $r = .31, p < .01$ ) (Fenning & May, 2013) which supports Bandura’s (2006) argument that self-efficacy measures should be domain-specific in order to accurately describe and illustrate the variables that are to be tested. The studies described above employed a cross-sectional research design which aligns to the construction of this current study as significant results have been produced from the previous research; however, several longitudinal studies have also been conducted and provide significant results that add to the body of literature on this topic.

Putwain et al. (2013) conducted a longitudinal study of 206 students using the Academic Confidence Scale (Sander & Sander, 2003) as one of the predictors for the outcome, subject grade. The researchers provided results indicating a positive correlation of ASE for studying between the initial measurement taken at the beginning of the semester and the student’s semester one performance. In this study, the researchers do not mention whether the students underwent any

special treatment or training, additional training or advisement may have influenced the results which is similar to the approach by Lane et al. (2004). This study probed the participants' self-efficacy at two different points during a course in statistics. Lane et al. (2004) used the Self-Efficacy Towards Statistics Questionnaire (Lane et al., 2002) as the measurement tool. Students participated in the course per standard course guidelines and were administered the measure during week two and week seven with assignment grades as the outcome. Although self-efficacy was not significant at week two, there was a positive relationship when measured at week seven. Both studies suggest that self-efficacy can change over time; however, these studies lack control groups to understand if the influence or mediation of instruction in the course contributed to the change in self-efficacy in comparison to those not enrolled in course.

#### *Academic Self-Efficacy, Race, and Academic Performance*

Research in this area consistently showed that there are differences in self-efficacy of minority students, citing lower levels of self-efficacy than their counterparts (Brower & Ketterhageng, 2004; Combs, 2001; Cuyjet, 1997; Laar, 2000; Mayo & Christenfeld, 1999). Literature that studies the differences in race in higher education, particularly of African-Americans, is an area of great concern (Mackell, 2011; Cowan, 2014; Vincent, 2014; Sandoval-Lucero, et. al., 2014). Not only do African-American students have the lowest graduation rates in secondary school (Stetser & Stillwell, 2014), but the achievement gap notes that African-Americans, as a group, has highest percentage of students that are below proficiency in reading and mathematics (Cowan Pitre, 2014).

Graham (1994) makes several claims regarding the self-efficacy beliefs of minority, particularly African-American students. First, the researcher cites that academic self-efficacy of African-American students are strong and may be stronger than their White peers and that these



beliefs are strong even when faced with low achievement (Graham, 1994). Similar results were found in studies including Hispanic students Lay & Wakstein, 1985; Stevenson, Hanson, & Uttal, 1990). Additionally, in comparing African-American to Afro-Cuban students, Pinder (2012) discover that there were significant differences between the mean scores of groups on science performance, with African-Americans scoring lower than their counterparts. These manuscripts addressed minority students in collegiate settings and are critical to this study, but present contrasting views. Consequently, research illuminating the subpar performance of African-American students saturate the literature; however, not much has been conducted in comparing these results with other races; however, the academic self-efficacy of African-American students, as well as other races, is of interest to this study.

In a study of African-American students, Pajares and Kranzler (1995) found that these students demonstrate lower mathematics self-efficacy than White peers and was a similar result by Pajares and Johnson (1996) in studying writing self-efficacy. Still, the research does not clearly tease out other factors that may influence these self-efficacy beliefs. In some instances, the manner in which how the populations are selected and compared are flawed, such as confounding ethnicity with social class in a comparison of middle-class white children to minority students from the lower class (Graham, 1994; Pintrich & Schunk, 1996). In fact, once socioeconomic status is controlled, little research has been produced supporting the claim that African-American students have lower perceptions of confidence than White students (Graham, 1994). Regarding other races, Daly Stennis (2016) conducted a study with students at Southern Adventist University regarding self-efficacy. Using an ANCOVA to analyze the 394 survey responses, the researcher noted that there were no significant differences in self-efficacy amongst ethnic groups ( $p = 0.248$ ) when the

other variables were held constant. While this finding may be interesting, it is important to note institution type and the specialized nature of the population that may influence the data.

Additional research regarding other races and ethnicities regarding academic self-efficacy and performance are needed as the studies mentioned in various sections specifically speak to African-American students, thus presenting a few gaps in the literature. First, researchers have presented contradictory results regarding differences in ASE regarding African-American students and White students. Secondly, research pertaining to the self-efficacies of other races is also limited. Lastly, not all studies equally compare groups to each other, not taking into account other factors such as socioeconomic status as some studies compare, for example, lower African-American students with middle-class White students.

#### *Music Participation and Academic Performance*

Studies involving school-age children's participation in music and the correlation to academic performance is numerous, generally showing a positive correlation between the two. Harris (2007, 2008) observed the academic performance of young children in a Montessori setting and compared the performance of those who received traditional Montessori instruction to those who experienced a music-enriched Montessori education. Those students who participated in a music-enriched Montessori education were exposed to music three-times per week to 30-minute sessions for six months and were assessed using the Test of Early Mathematics Ability (TEA 3). In the analysis by age group, students who participated in music outperformed their counterparts in each age. It was later discovered that age-three children had higher scores than either than the four- and five-year-old children. Harris concluded that an art-rich curriculum can have a significantly positive impact on the academic achievement of young children. Studies using students in primary school have also focused on instrumental music participation. For instance,

Dryden (1992) analyzed the scores from the fourth edition Comprehensive Test of Basic Skills of 164 fifth grade students and showed that there was a statistically significant difference between reading vocabulary and total reading achievement with similar results achieved by Little (2016) who studied middle school music and standardized test scores from the California Achievement Tests. This may be attributed to the extensive musical vocabulary used to interpret and discuss music, specifically musical terminology in other languages. While these studies employed a cross-sectional design, investigators have seen changes to academic achievement due to music participation over time.

In an evaluation of student tests scores on the Iowa Assessments, Willis (2016) studied 116 middle school students' change in academic performance from 2012-2014 which showed that music education was a significant predictor of math growth and suggested that prolonged music participation may have a greater effect on academic achievement. Blomquist's (2014) longitudinal study examined the relationship between instrumental music enrollment and school success, standardized test scores, GPA and attendance. The data of one cohort of students from two Missouri school districts were examined over a five-year period. The sample was divided into four groups, by SES and by enrollment status in a music program with results showing that the improvement in test scores between fourth and eighth grade was significantly increased for students enrolled in instrumental music courses as compared to those not enrolled in music courses. The same trend was shown in students from families of low SES, low-ability instrumental students, but failed to reach statistical significance due to small sample size.

Holochwost et al. (2017) examined whether music education was associated with improved performance on measures of academic achievement and executive functions. Participants ( $N=265$ ) in first through eighth grades were selected by a lottery system to participate in an out-of-

school program that offered individual and large ensemble training on orchestral instruments. The results showed that, relative to the controls, students who received orchestral instruction demonstrated higher scores on standardized tests, obtained better grades in ELA and math, and exhibited superior performances on executive functions and short-term memory. The largest difference in performance was between those in the control group and those who received the music program for two to three years.

There are several underlying factors imbedded within music participation are relational to academic performance, such as motivation, self-efficacy, self-concept, self-regulation, and other factors; however, the presentation of studies does not consider these constructs in their studies. Researchers have concluded that self-efficacy enables students to engage longer in activities that students feel produce learning (Schunk, 1995) and which may be attributed to higher academic achievement. Yet, Schunk (1995) does assert that greater achievement cannot be attained by highly efficacious students who lack the skills needed to complete the task. Thus, another area studying the relationship between music and academic achievement is examining studies that address music training.

The presentation of studies outlining the academic performance of students who participate in music suggests that there is an underlying cause for the relationship; however, the researchers collectively neglect to address deeper factors related to achievement. Self-efficacy is one of the constructs that has been shown to be positively correlated to students' academic achievement. Since these studies do not address this matter, the present investigation hopes to probe further and discover if there is a relationship between academic self-efficacy and music self-efficacy, as stated by research question three, but also bring light to differences in self-efficacy between minority and

non-minority groups. To provide a global picture before drawing a conclusion, studies in music self-efficacy must be addressed to show its influence on performance and academic self-efficacy.

### **Music Self-Efficacy**

Several researchers have agreed that musicians with a higher level of self-efficacy will also have reciprocal levels in knowledge and skill in music performance, converse to those with lower levels (Clark, 2008; Hendricks, 2009; Hewitt, 2015; McCormick & McPherson, 2003; McPherson & McCormick, 2000). This may be due in part that students with a higher self-efficacy persist longer in tasks that they perceive to further their education (Meece & Painter, 2012; Schunk, 1995); however, these differences in self-efficacy have been seen by age (Pajares & Valinate, 1999; Usher & Pajares, 2009), sex (Matusi et al., 1990; Usher & Pajares, 2006); type of school (Aydin & Uzuntiryaki, 2009) and national identity (Pastorelli et al., 2001). Since music is a specific domain in academia, Bandura (1986), Pajares (1996a) and Zimmerman (2000) posit that more efficacious students in a specific domain exert more effort, choose tasks that are more challenging, and experience less anxiety. As a result of these various findings, researchers have found a positive relationship between music self-efficacy and achievement have been observed (Clark, 2008; McCormick & McPherson, 2003; McPherson & McCormick, 2000); however, specifically addressing music, an area that has been seen to influence self-efficacy is music training.

#### *Music Self-Efficacy and Music Performance*

Schools play a role in the development of one's self-efficacy through enrollment in performance ensembles (Bandura, 1997). In secondary schools, students who participate in school-based ensembles, such as band, may spend up to seven years performing with the same peers. The development of one's self-efficacy may be influenced by the social interactions that occur within the ensemble, the direction provided by the conductor, and having a unified goal of music-making.

To illustrate, Davidson (2006) conducted a study with middle school band students and revealed that teaching improvisation increased the self-efficacy of improvisation for students. Due to the instruction provided to support skills needed in middle school band, this influenced the student's beliefs in their competency to improvise as they are more competent and confident (Schunk & Pajares, 2004). Conversely, students that do not feel as musically adequate cease involvement in music for other leisure or sport activities (Hallam, 1998); therefore, music self-efficacy for performing is vital to future pursuit of musical activities.

Recently, Zelenak (2019) sought to understand the relationship between self-efficacy and achievement in music performance. Using secondary bands students as the participants and employing a linear regression, Zelenak (2019) found that enactive mastery, or mastery experiences, was the strongest construct in self-efficacy; however, directly related to achievement, an ANOVA revealed a significant difference between the sources of self-efficacy with verbal/social persuasions as the best predictor of achievement in music performance. Zelenak (2019) examines differences by gender, age, and type of performance ensemble, but does not make a note of differences in race which is critical to this study. Although previous research is mixed regarding race at the collegiate level, research does support that there are differences in self-efficacy in secondary schools.

While Zelenak (2019) sought to examine differences in self-efficacy, Ritchie and Williamon (2012) compared self-efficacy beliefs to performance quality in participants. This is interesting because the study does not initially assess the student's performance abilities as Schunk (1995) concluded that high self-efficacy does not equate to high-level performances if the students lack the necessary skills and techniques to complete the task effectively which contrasts other work citing that more efficacious students also have high levels of knowledge and skill in music

performance (Clark, 2008; Hendrick, 2008; Hewitt, 2015; McCormick & McPherson, 2003; McPherson & McCormick, 2000). Nevertheless, the findings from the Ritchie and Williamon (2012) study show that self-efficacy did correlate to the predicted ( $r = .33, p < .01$ ) and awarded marks ( $r = .32, p < .01$ ) on the examination but the correlation was not significant ( $r = .12, p > .05$ ). The researchers later conclude that performance experience is essential to assessing performance quality since self-efficacy is influenced by mastery experiences (Bandura, 1997, 1986). Bandura's assertion coupled with Ritchie and Williamon's (2012) conclusion has influenced the design of this study in that the research requires participants to have performed in ensembles to ensure that the data derived accurately reflects their beliefs.

Other studies in this domain include Cahill Clark (2008) who studied orchestra studies in Texas, Hewitt (2015) who investigated the relationships between self-efficacy, self-evaluation, and music performance of band students, and Engilmez and Engur (2017) in piano students. The reason why these studies are mentioned is because this current investigation utilizes participants from various performance ensembles, albeit band, chorus, orchestra, steel pan, etc. These studies help to paint a global picture of music self-efficacy beliefs from performers of different mediums. All of these studies conclude that music self-efficacy is positively related to performance; however, some key differences separate these findings.

First, Cahill Clark (2008) found students who engaged in private lessons demonstrated a higher level of self-efficacy than those who did not and concluded that understanding a student's previous background in music and its relationship to self-efficacy may be beneficial to students. Although private instruction is not a key factor of interest in this study, it will be considered as this may influence one's self-efficacy in music performance. Hewitt (2015) does indicate that student's self-efficacy beliefs before performing and the self-evaluations afterwards were similar, regardless

of private instruction. Yet, Englimez and Engur (2017) revealed that motivational factors and self-efficacy decline after the piano students reach 10th grade, despite showing that self-efficacy, achievement grade and motivation were positively correlated.

Although this collection of studies addresses the relationship between self-efficacy and music performance, the terminology, such as , “performance” and “achievement,” are used interchangeably or sometimes together (e.g., “performance achievement”) (Zelenak, 2011). Researchers used written or multiple-choice based measures to investigate variables in music, but other factors, such as writing self-efficacy (Pajares & Valiante, 1999) or performance anxiety (Zarza et al., 2016), are not controlled nor considered in the research design. Zelenak’s (2011, 2015) tool is suitable for this study as it can be used to measure self-efficacy beliefs of students in performance of playing their instrument and is not a tool to measure knowledge beliefs about self-efficacy. The subsequent studies will provide more discussion regarding how performance has been measured that more closely align to the methodological approach for this study.

Researchers studying music self-efficacy and performance often cite the work of McPherson and McCormick (2000) and McCormick and McPherson (2003) as it provided seminal work into this area. Of importance to this study is McCormick and McPherson (2003) as it specifically addresses self-efficacy and actual performance in the research design. This study investigated the cognitive mediational processes in relation to the Trinity College, London Music Exam. To explore this, the researchers used a structural equation modeling using LISREL (Joreskog & Sorbom, 1996) to understand the relationships among motivation, music practice and performance. Citing the General Expectancy-value Model of Motivation (cf., Eccles, 1983; Pintrich, 1988, 1989) as the theoretical framework and referencing Bandura’s (1977, 1997) Social Cognitive Theory, the structural equation showed that there was a strong association between self-



efficacy and the student's performance, illustrating that self-efficacy is the strongest predictor of actual performance in the graded examination.

The focal point of this study lies in the researchers' methodological approach to the investigation. The Trinity College, London Music Exam consists of prepared pieces with piano accompaniment, technical exercises, and etudes from a graded syllabus. The students are assessed in front of a trained professional examiner. Data collection was taken from a self-report questionnaire taken before the exam captured self-regulatory (Cognitive Strategy Use, Self-Regulation) and motivational (Intrinsic Value, Anxiety, Self-Efficacy) components (McCormick & McPherson, 2003). Using a seven-point Likert scale, self-efficacy was studied using the item "I have fully mastered the requirements of today's examination." Based on the presentation of the information, it is evident that McCormick and McPherson (2003) assessed the self-efficacy of performance in a graded manner more akin to a standardized test. In their research design, it states that trained professionals were used to assess the participants, thus suggesting that evaluators had undergone previous training to ensure standardized grading of all participants against a rubric.

This study does provide some key points that are necessary for the current proposed study. First, McCormick and McPherson (2003) provide a solid theoretical foundation that acknowledges the influence of self-efficacy on students performing on their instrument. Bandura's (1977, 1997) construct continually explains the deeper motivational process that influences one's decision to act. As this study closely aligns to the theoretical framework used in the MPSES (Zelenak, 2011), comparisons in study approach and design helped to direct the methodological approach of this study; however, a stark difference is the way performance was studied. As alluded in the preceding paragraph, McCormick and McPherson (2003) assessed performance by means of a graded performance examination which is in contrast to how performance is studied in this study. The

methodological approach more closely resembles Hewitt's (2015) approach who used excerpts and researcher-created etudes to investigate the relationship among self-efficacy, self-evaluation, and music performance of secondary band students. In contrast to both studies, this study does not measure performance against a rubric, to capture the self-efficacy beliefs of the participant's ability to perform on their instrument in comparison to beliefs of their counterparts.

Other researchers like Cahill Clark (2008) and Zelenak (2019) used ensemble audition results as a variable relevant to self-efficacy. Specifically, Zelenak (2019) investigated the relationship between self-efficacy and achievement in music performance. As presented in the purpose, the plan for study seems to relate closely to the aims of McCormick and McPherson (2003) in that participants perform an exercise in front of a trained music profession; however, the participants in Zelenak's (2019) took part in a larger ensemble rather a graded examination. This could be problematic in a few ways. First, other external motivational factors such as seat placement, solo opportunities, and peers influence, could influence the auditioned performance. For example, a student who occupies the principal seat may be more motivated to maintain that seat rather than someone who has remained in the concluding seat several times. In turn, another issue that arises is that this may also influence one's self-efficacy as noted by Cahill Clark (2008) who saw that self-efficacy score and audition rank were inversely correlated thus concluding that students who were better ranked had higher self-efficacy scores. The underlying factors that may explain were not addressed in either study but does show that using audition scores as a method to assess one's self-efficacy is also flawed.

Nevertheless, Zelenak (2019) does realize findings that are important to this current study. In Zelenak (2019) study, the second research question seeks to understand if there is a difference in the relationship between self-efficacy and music performance achievement of students in a)

band and string students, b) middle and high school, c) female and male. This question is important as it aligns to the first research of this study that examines the difference in music performance self-efficacy of minority and non-minority undergraduate students in performing ensembles. Based on an ANOVA used, the data showed a significant difference between sources of self-efficacy with verbal/social persuasion as the strongest predictor of achievement. This study also plans to use an ANOVA to reveal differences between the two populations of interest as the statistical approach closely resembles the approach done by Zelenak (2019). Although his study uses post-secondary students, the last finding noted that there was no correlation between self-efficacy and years of enrollment in an instrumental ensemble. Since students in college or university ensembles have been playing longer, the data may reveal results that differ than those obtained in the study by Zelenak (2019). Although this variable is not a specific research question for this study, it is a factor that will be captured on the self-report questionnaire that may have bearing on the level of self-efficacy of the participant. Zelenak's (2019) conclusion to question three suggests that years of enrollment in an instrumental ensemble did not have any relationship to self-efficacy; therefore, one may hypothesize that this will be the same for students participating in post-secondary ensembles. Additional testing must be done before arriving to such conclusion.

Watson (2010) used a different methodological approach to investigate how aural versus notated instructional materials effect achievement and self-efficacy in instrumental jazz improvisation performance. Similar to the design of Cahill Clark (2008) and Zelenak (2019), participants in Watson (2010) performed pre- and post-instruction improvisation exercises in front of four expert judges using the researcher-created Jazz Improvisation Performance Achievement Measure and self-efficacy measured using the Jazz Improvisation Self-Efficacy Scale. The difference lies in the procedures as Watson (2010) split the collegiate participants into two groups,

both receiving two different types of treatment, either aural or notated over four days in 70-minute settings. An ANOVA indicated a significant interaction between pre- and post-instructional method, with those in the aural group showing greater gain from pre to post than the notated group. The usage of treatment groups is what makes this study unique as previous studies in this area use assessment scores from prepared exercises or examinations. In Watson (2010), the study illustrated that participant's self-efficacy for jazz instruction can improve over time with exposure to instruction in improvisation, results are similar to longitudinal studies seek to understand the change in academic self-efficacy and academic achievement over time.

Other studies, such as Watson (2010) who used a training program to influence self-efficacy are Bugos et al. (2016), and Bugos and Cooper (2019). Similar results drawn from Watson (2010) and Bugos et al. (2016) reveal that self-efficacy can change over time. In a study of 157 high school students, Hendricks (2013), noted that music performance self-efficacy changed over time over the course of a three-day honor orchestra festival. The participants responded to survey, engaged in interviews, and were observed by researchers. A repeated measures ANOVA showed a general increase in music performance self-efficacy over time  $F(3, 219) = 49.92, p < .01$  (Hendricks, 2013). In studying older adults, Bugos et al. (2016) studied senior adults who underwent 30 hours of intense piano training. To understand the change over time, the researchers collected self-efficacy data and cortisol levels during three points of the study which a repeated measures ANOVA over all points showed enhanced music self-efficacy with pairwise comparisons.

Bugos and Cooper (2019) later did a similar study to Bugos et al. (2016) but used mallet training to study the effect on self-efficacy and processing speed. The participants were split into treatment groups as was done in Watson (2010) where the treatment group participated in eight

two-hour classes where the instructor focused on music reading and comprehension while the control group completed autobiographical writing prompts. The researchers noted, as was found in Bugos et al. (2016) that the treatment group showed enhanced music self-efficacy over time,  $F(1, 18) = 6.439, p = 0.021$ .

## **Summary**

This review of literature provided an overview of studies in academic self-efficacy and music self-efficacy. Rooted in Bandura's (1977, 1997) Social Cognitive Theory, researchers have created domain-specific tools, such as the CASES (Owen & Froman 1988) and the MPSES (Zelenak, 2015) to examine participants beliefs more accurately about the abilities to execute a task. Other studies in self-efficacy include reading (Saloman, 1984); employment of learning strategies (Pintrich & DeGroot, 1990), math and verbal skills (Zimmerman & Martinez-Pons, 1990), and writing (Meier et al., 1984; Pajares, 2003). Research has shown that music self-efficacy is positively correlated to performance similarly to the correlation between academic self-efficacy and academic performance; however, there are differences in how researchers assess performance.

As noted by studies of McCormick and McPherson (2003), Zelenak (2019) and other researchers, there is a difference in the manner of how performance is analyzed. While McCormick and McPherson (2003) chose to draw the relationship between self-efficacy and performance on a graded examination, Zelenak (2019) and other researchers chose to use audition results as a method to make conclusions. These studies, though, do not consider the relationship between self-efficacy and music performance anxiety and external factors that may influence the self-efficacy of participants. To demystify any misconceptions as to how performance is being studied, this study will explore the participant's self-efficacy to perform in a group setting with their peers.

## **CHAPTER THREE**

### **METHODOLOGY**

This cross-sectional study examined the differences in music performance self-efficacy by race and ethnicity in undergraduate performing ensembles and to understand the relationship between music performance and academic self-efficacy. First, the researcher solicited undergraduate participants by communicating posting advertisements in social media groups and word-of-mouth. After receiving IRB approval, the protocol and instruments were distributed electronically to the participants who completed the measurements individually which were collected through Qualtrics. Basic demographic data was collected such as, gender, race, years of participation in ensembles, and other information necessary for the study.

#### **Participants**

Recruitment for this study included undergraduate students at various colleges and universities in the United States who have or are actively partaking in a performance ensemble as stated in the criteria. These ensembles were under the direction of a degreed professional who is faculty/staff at the institution. Both male and female participants were recruited but had to be currently enrolled in their institution. Each participant completed a basic demographic form and the two self-efficacy scales: the Music Performance Self-Efficacy Scale (Zelenak, 2011), and the College Academic Self-Efficacy Scale (Owen & Froman, 1988). All measures were individually administered and submitted via Qualtrics. All required documentation and protocols were submitted to the Institutional Review Board for approval.

## **Demographic Data**

General demographic data were collected from each participant via self-report (see Appendix A). The list of demographic data collected included the following: age, gender, ethnicity, race, year in college/university, music major (yes or no), years performing in ensemble (starting from 6th grade), years of private instruction/lessons before college/university.

## **Measures**

This section discusses the two measures used in this study. The first is the Music Performance Self-Efficacy Scale (MPSES) first created by Zelenak (2010) and revised in 2015. This tool is rooted in Bandura's (1997) Social Cognitive Theory focusing on the construct of self-efficacy. Bandura (1977, 1997) defines self-efficacy as the "beliefs in one's ability to organize and execute the course of action required to produce given attainments" (p.3). This 24-item measurement includes evaluation of self-efficacy beliefs in the four sources of self-efficacy in music performance. Scores were summed indicating the efficaciousness of the respondent. The 33-item College Academic Self-Efficacy Scale parallels the construction of the MPSES, using a five-point Likert scale where the respondent self-report based on the items stated.

### *Music Performance Self-Efficacy Scale (MPSES)*

Zelenak's (2010) Music Performance Self-Efficacy Scale was designed to examine the four sources of self-efficacy of secondary students in music performance. Zelenak used a variety of existing instruments, such as the general self-efficacy scale (Sherer et al., 1982), two academic self-efficacy scales (Pintrich et al., 1991; Usher & Pajares, 2006), a mathematics self-efficacy scale (Lent et al., 1991), and other research pertaining to music performance self-efficacy (McCormick & McPherson, 2003; McPherson & McCormick, 2006), to develop the MPSES.

The MPSES is a tool that has been used in a wide variety of self-efficacy research not only examining students (Zelenak, 2010, 2019), but also in older adults (Bugos et. al, 2015). The measure itself is very reliable ( $r = .87$ ) and maps onto the components that contribute to Bandura's social cognitive theory: eight items for mastery experiences, five items for vicarious experiences, six items for verbal/social persuasion, and give items for physiological states. This measure, 24 questions in total, distributes the type of question throughout the test in a way that does not appear obvious to participant in the change in style. Due to the frequent administration of this measure in research and its strong psychometric properties, the MPSES was selected to be used in this study.

#### *Construction of the Music Performance Self-Efficacy Scale (MPSES)*

The MPSES was originally developed from a pool of 30 items from various sources including a general self-efficacy scale (Sherer et. al, 1982), an academic self-efficacy scale (Pintrich et. al, 1991) and other materials focusing on music performance self-efficacy (McCormick & McPherson, 2003; McPherson & McCormick, 2006). After examination by a panel for content validity, the revised scale consisted of 24 items: mastery experiences accounts for seven items, five for vicarious experiences, six items for verbal and social persuasions, and give items for physiological state (Zelenak, 2010). A final item is included in the measures to assess the participant's accuracy in responding to the items which requested that participants write "9" as the response (Zelenak, 2010). The final item on the measure instructs participants to resume following the original instructions.

Although Bandura (2006) advised researchers to create self-efficacy scales ranging from 0-100 in intervals of 10; Zelenak (2010) deviated from this, citing that Usher and Pajares (2009) found a higher level of internal consistency when participants were able to assign any number ranging from 0-100 in their responses instead of intervals of 10. The Mathematics Skills Self-



Efficacy level was  $\alpha = .95$  as opposed to the 6-point Likert-type format of the Sources of Mathematics Self-Efficacy,  $\alpha = .91$  (Usher & Pajares, 2009). In another study, Pajares, Hartley, and Valiante (2001) noted that they were able to better account for the variance using a 0-100 response format than a six-point Likert scale which confirmed Zelenak's (2010) choice to deviate from Bandura's (2006) original recommendation and use a 0-100 response format where participants can freely assign a number. For example, participants assign a number within that range to a statement such as "I have had positive experiences performing music in the past."

#### *Psychometric Properties of the MPSES*

In the initial study, 293 students, ages 11 to 14 participated in the study (Grade 6,  $n=165$ ; Grade 7,  $n=52$ ; Grade 8,  $n=76$ ). To test the reliability and validity of the scale, Zelenak (2015) revised the scale using 290 middle ( $n=150$ ) and high school ( $n=140$ ) band, chorus, and orchestra students from 10 public schools in the West and Southeastern parts of the United States. Revisions of the scale included additional questions for mastery experiences in solo and small-ensemble performance, descriptive statistics to differentiate between large and small ensembles, and solicited information regarding outside influences other than a peer or professional to serve as a model (Zelenak, 2015).

The Music Performance Self-Efficacy scale, both versions, have been peer reviewed and employed in various research studies. Bugos et al. (2016) used the 2010 version of the scale to study the effects of an intense piano training program on self-efficacy. In a later study Bugos (2018) sought to study the effects of piano training on cognitive performance. Bugos and Cooper (2019) used the tool to investigate the effects of mallet training on self-efficacy in older adults. Adaptations of Zelenak's (2010) scale include Elam et al. (2019) sight-singing self-efficacy scale which is an instrument used to understand sight-singing self-efficacy of middle school chorus

students and Regier (2019) self-efficacy scale that measures band directors' self-efficacy in concert, marching, and jazz content. Zelenak (2019) employed his revised 2015 tool to predict music achievement from the sources of self-efficacy.

Zelenak's (2010) first study showed strong internal consistency within each section: mastery experience  $\alpha = .93$ , vicarious experience  $\alpha = .90$ , verbal/social persuasion  $\alpha = .94$ , and physiological state  $\alpha = .90$ , and within the total scale  $\alpha = .97$  (Zelenak, 2010). Content validity in the revised tool (Zelenak, 2015) was verified by personnel within music education who affirmed the tool's ability to examine music performance self-efficacy in secondary schools. The findings from the MPSES concluded that Zelenak's measure was a good fit with Bandura's (1997) theoretical model [ $\chi^2(245, N = 290) = 501.62, p = .001, CFI = .87, SRMR = .06, RMSEA = .06$ ] and followed Bandura's (2006b) specifications for assessing self-efficacy; however, Zelenak (2015) uses a continuous interval scale from 1-100 (1 = *strongly disagree*, 100 = *strongly agree*).

Zelenak (2011) used the mean scores from his study as a basis for teachers to compare the scores of their students, with the lowest possible score of 24 and a maximum score of 2400. He noted that there were no significant differences in mean scores among grade level or ensembles, thus suggesting that the set of mean scores could also be applied to middle and high school students. Regarding the 2015 revision, this too had a high internal consistency ( $\alpha = .88$ ) where responses were collected from participants for three weeks (Zelenak, 2015). As with his previous study, consistent responses were elicited from verbal/social persuasion ( $\alpha = .77$ ) and mastery experience ( $\alpha = .74$ ). Lesser consistent for internal consistency was physiological state ( $\alpha = .67$ ) and vicarious experiences ( $\alpha = .59$ ) which echoes issues found in other self-efficacy studies, specifically those relating to vicarious experiences (Lent et al., 1991; Lent et al., 1996; Usher & Pajares, 2006; Zelenak, 2015). After a confirmatory factor analysis was conducted, it revealed that

mastery experience and verbal/social persuasion were the strongest influencer on the overall self-efficacy as measured by the MPSES.

#### *College Academic Self-Efficacy Scale*

Owen and Froman (1988) developed the College Academic Self-Efficacy scale due to the inadequacy of measures in appropriately assessing self-efficacy. The authors cite that most of the research conducted on self-efficacy during this time focused on the content of self-efficacy rather than the measurement itself (Owen & Froman, 1988). One of the issues that authors cite is a flaw in how self-efficacy measures were designed, regarding *strength* and *magnitude*. *Strength* refers to the participant's acknowledgement whether he/she can perform the task and indicates their *strength* of efficacy on a 90-point scale (Owen & Froman, 1988). The first step is necessary so that the participant can later assess the *magnitude* of their self-efficacy by adding the "can-do" declamations (Owen & Froman, 1988). Cervone (1987) notes that these two items are separate constructs and in testing, there is significant overlap of the two. For example, Wood and Locke (1987) produced low correlations, .64 to .67 between strength and magnitude, which resulted in a ceiling effect on the magnitude scales. With repeated testing, Wood and Locke (1987) produced inconsistent results thus concluding that measurements should use both strength and magnitude scales to accurately assess self-efficacy.

Bandura's Guttman-style hierarchical scales provided spread internal consistency estimates. A correlation approaching 1.00 between an item and an easier preceding item was expected (Owen & Froman, 1988). The construction of most self-efficacy measures is self-report, Likert-type scales; however, Bandura (1986) made it clear to differentiate between performance expectations and outcome expectancies. Yet, according to Owen and Froman (1988), researchers have developed scales that intertwine the two (see Gibson & Dembo, 1984, Hoover-Dempsey et

al., 1987). Because of the mismatched puzzle pieces of measures, Owen and Froman (1988) later cite that some researchers polish their results for a more appealing appearance and noted that Ashton and Webb (1986) admitted that the scales used in their study were not psychometrically sound. Due to the various issues mentioned, Owen and Froman (1988) proceeded to develop the College Academic Self-Efficacy Scale (CASES).

#### *Construction of the College Academic Self-Efficacy Scale (CASES)*

After pooling and testing question items, Owen and Froman (1988) resulted with a 33-item mix of questions that were not organized hierarchically. The scale is constructed in a 5-point Likert-type format where the poles “Very little....Quite A Lot” were labeled (Owen & Froman, 1988) and the test can be completed by the participant in five minutes. Participants indicate their level of academic self-efficacy to statements as “Taking well organized notes during a lecture.”

#### *Psychometric Properties of the College Academic Self-Efficacy Scale (CASES)*

The CASES was administered twice over an eight-week interval and produced alpha internal consistencies of .90 and .92, with an eight-week stability at .85 (Owen & Froman, 1988). To analyze the validity of the measure, concurrent validities were estimated using two criteria derived for self-efficacy theory: the *frequency* in which the task was performed, and the *enjoyment* experienced (Owen & Froman, 1988). Owen and Froman (1988) conducted separate studies that requested the participant to self-rate the frequency and enjoyment of each of the 33 items, or behaviors, on the CASES. To predict the mean for *frequency*, Owen and Froman (1988) added grade-point average (GPA) into the regression equation along with the CASES score. The researchers used these studies as incremental validity research with both samples proving similar results; thus, concluding that academic self-efficacy proved strong incremental validity that GPA cannot explain singularly.

Factorial validity was achieved by combining the responses of three samples and applying an exploratory principal factor analysis (Owen & Froman, 1988). From there, three factors emerged from the data: (1) Overt, social situations, (2) cognitive operations, and (3) technical skills (Owen & Froman, 1988). The researchers concluded testing validity by having participants estimate the difficulty of performing the behaviors on the CASES and found that behaviors listed as least difficult were those where participants were exposed to the most and experienced high levels of success and conversely for other behaviors (Owen & Froman, 1988). Owen and Froman (1988) concluded that their results confirm predictions made by Bandura's (1986) self-efficacy theory.

### **Procedure**

Participants were recruited via social media groups and word-of-mouth. In the correspondence, it included the background research and purpose of the study, the study criteria, the informed consent form as required by IRB, and a link to the measures via Qualtrics. Participants completed the consent form before completing the measures. Next, participants completed the measures during a convenient time. The study window was open for two weeks to allow participants adequate time to complete the measures. All materials were distributed digitally.

### **Analyses**

Upon completion in data collection, the principal investigator began analysis of the data centered around the research questions of the study. The information will be obtained using Qualtrics (Qualtrics, Provo, UT) and initially sorted based on the categories labeled in this study, which by race, African-American/Black, Caucasian/White, Two or more races/Mixed, and by ethnicity: Hispanic and Non-Hispanic.

To address the first research question of the study, analysis consisted of examining potential significant difference in music self-efficacy by race and ethnicity. Raw scores were computed from the MPSES, and IBM-SPSS software (version 26) were used to analyze the data. Based on previous literature that examines self-efficacy among race and ethnicity, it was hypothesized that there will be a significant difference between race but not ethnicity. A MANOVA was conducted with the MPSES raw scores across the variables race and ethnicity. If significant differences were found, a Bonferroni post-hoc test was used to determine where the differences occur among respondents.

In the second question, a Pearson Product-Moment Correlation was used to discover the strength in relationship between academic self-efficacy and music performance self-efficacy. Lastly, to address the third research question, multiple regression was used to find the strongest predictor(s) of music performance self-efficacy based on the following variables: gender, age, race, ethnicity, classification, major, years of participation, hours of practice (weekly), or years of private instruction.

## CHAPTER 4

### RESULTS

Results from the study are included as descriptive statistics for gender, race, and ethnicity of participants for the MPSES. In addition, analysis to answer the first research question includes use of an ANOVA to analyze race and ethnicity across the MPSES. After the values from the ANOVA and post-hoc are reported, descriptive data for the CASES is present followed by analysis using Pearson's  $r$  to determine the strength in relationship between the MPSES and the CASES. In the final phase of the analysis, a multiple regression was used to examine which of the factors (gender, race, age, ethnicity, classification, major, years in performing ensembles, hours of weekly practice, years of private instruction) is the best predictor music performance self-efficacy.

#### **Descriptive Analyses of the MPSES**

This first part of this study investigated the differences in MPSES of undergraduate students in participating ensembles by race and ethnicity. Studies in other subject areas such as writing (Schunk & Pajares, 1995) showed a statistically significant difference amongst self-efficacy by race and ethnicity. However, to date, no study analyzed these differences in music, thus supporting the need for this study. The MPSES (Zelenak, 2010, 2015) is a self-efficacy measure that captures the responses of participants using a scale from one to 100 which correlates to the level of efficacy the participant feels based on the assessed question. The construction of the measure allows participants to reach a maximum of 2400 points which denotes the highest level of music performance self-efficacy and the lowest score possible of 24 suggesting the converse.

To achieve obtain the overall score, each individual participants' responses were summed to achieve a total score.

A total of 163 participants entries were collected from participations; however, five data sets were omitted from the analysis due to incomplete responses. Of the 158 participants who provided complete responses (male:  $n = 71$ , female:  $n = 86$ , non-binary/third gender:  $n = 1$ )  $n = 55$  were African-American/Black,  $n = 56$  were Caucasian/White, and  $n = 47$  were Two or more races/Mixed. The age of the participants ranged from 18 years-old to 23 years-old and were all undergraduate collegiate students in the United States, having successfully participated in a performing ensemble for at least one semester. Table 1 notes descriptive statistics of the respondents with the MPSES as the corresponding factor and the subsequent figures illustrating the range of scores.

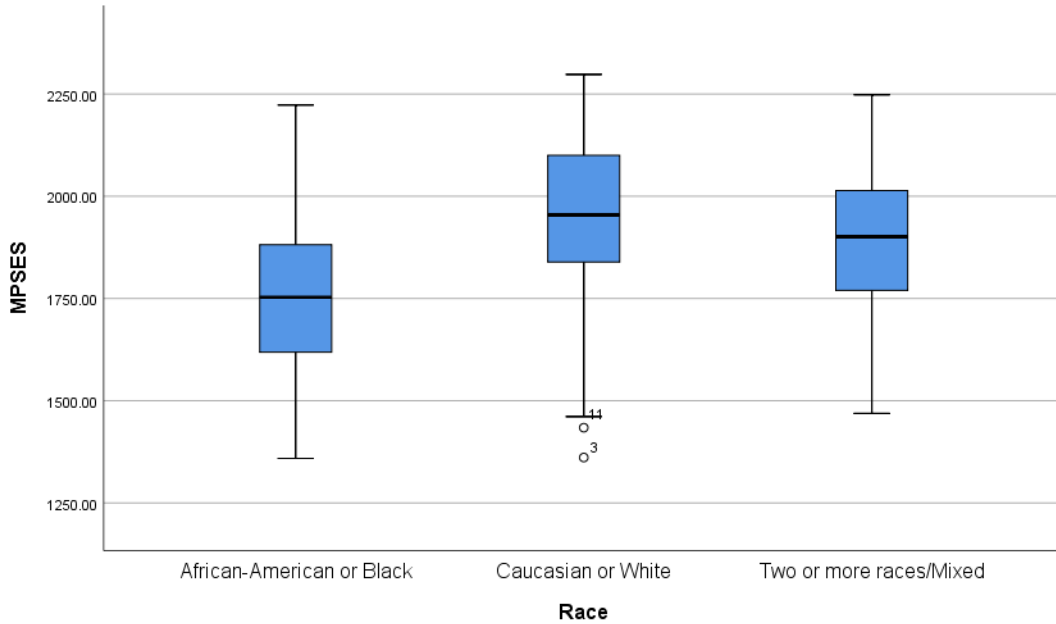
**Table 1:** *MPSES Descriptive Statistics by Race*

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Min.	Max.
					Lower Bound	Upper Bound		
Race								
African-American/Black	55	1754.72	192.51	25.96	1702.68	1806.77	1359	2223
Caucasian/White	56	1937.14	201.79	26.96	1883.1	1991.18	1361	2298
Two or more races/Mixed	47	1880.68	192.11	28.02	1824.27	1937.09	1469	2248

The maximum score possible on the MPSES is 2400. Regarding gender, both male ( $M = 1846.35$ ,  $SD = 200.57$ ) and female ( $M = 1863.49$ ,  $SD = 218.07$ ) scored generally high on the measure with similar means. In analyzing the data by race, the data reports that African-American



participants had a lower average ( $M = 1754.72$ ,  $SD = 192.51$ ) than Caucasian ( $M = 1937.14$ ,  $SD = 201.79$ ) or those reporting two or more races/Mixed ( $M = 1880.68$ ,  $SD = 192.11$ ).

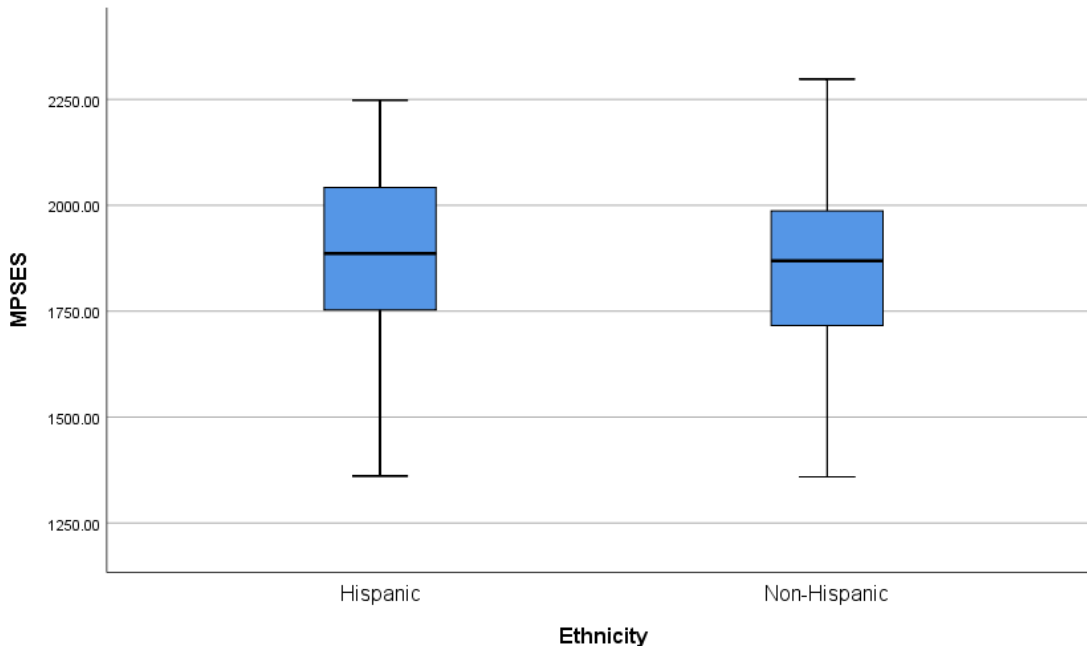


**Figure 1.** *MPSES Boxplot by Race*

Table 2 illustrates the descriptive statistics for the MPSES by ethnicity. The Hispanic ( $n = 69$ ) participants ( $M = 1873.77$ ,  $SD = 212.68$ ) and the non-Hispanic ( $n = 89$ ) participants ( $M = 1843.73$ ,  $SD = 207.50$ ) had means within proximity of each other; however, the 95% Confidence Interval for Mean for Hispanic participants [1800.02, 1887.44] is not as wide as the confidence interval for non-Hispanic participants [1822.68, 1924.86].

**Table 2:** *MPSES Descriptive Statistics by Ethnicity*

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Min.	Max.
					Lower Bound	Upper Bound		
Hispanic	69	1873.77	212.68	25.60	1822.68	1924.86	1361.00	2248.00
Non-Hispanic	89	1843.73	207.50	21.99	1800.02	1887.44	1359.00	2298.00
Total	158	1856.85	209.64	16.68	1823.91	1889.79	1359.00	2298.00



**Figure 2.** MPSES Boxplot by Ethnicity

*Research Question One*

The first research question inquires as to whether there is a significant difference by race or ethnicity on the MPSES. A preliminary analysis of the data showed a significant difference between the groups:  $F(2, 155) = 12.55, p < .001$ . Since a significant result was produced, a Tukey HSD post-hoc test was conducted and showed a significant relationship among the following groups: African-American and Caucasian ( $p < .001$ ), African-American and Two or more races/Mixed ( $p < .004$ ). The other comparison, Caucasian and Two or more races/Mixed, was not significant ( $p = .314$ ). To gain a more detailed understanding of the relationship, a MANOVA was used to analyze the data to control for Type 1 error. After the assumptions were met, the MANOVA, which tested the differences between race and ethnicity on the MPSES, showed that a significant effect was obtained for race, Wilks' Lambda = .81,  $F(8, 298) = 4.24, p < .001$ ; however, this was not the case for ethnicity, Wilks' Lambda = .98,  $F(4, 149) = .705, p = .590$ , nor

race\*ethnicity, Wilks' Lambda = .959,  $F(8, 298) = .78$ ,  $p = .618$ . In more detail, the MANOVA showed that there is significant difference in the total score on the MPSES by race ( $p < .001$ ), but also in the four sources of self-efficacy, with each domain reaching significance at the .001 level. Conversely, ethnicity did not reach significance among the groups ( $p = .84$ ), nor within each source of self-efficacy: Mastery Experience ( $p = .82$ ), Vicarious Experience ( $p = .82$ ), Social/Verbal Persuasion ( $p = .38$ ), Physiological States ( $p = .94$ ). Lastly, in analyzing the intersection of race\*ethnicity, this also did not reach significance on the entire MPSES ( $p = .19$ ) nor in the four domains: Master Experiences ( $p = .14$ ), Vicarious Experience ( $p = .14$ ), Social/Verbal Persuasion ( $p = .33$ ), Physiological States ( $p = .57$ ).

Due to the significant result produced by difference in race on the MPSES, a Bonferroni test was conducted as a post-hoc to identify where the disparity occurred. The Bonferroni procedure indicated that the comparison of means on the MPSES as a hold yield a significant difference between African-American and Caucasian ( $p < .001$ ), African-American and Two or more races/Mixed ( $p < .05$ ); however, a non-significant result was produced for Caucasian and Two or more races/Mixed ( $p = .439$ ). A deeper analysis by factors showed that African-American scores were only significant to Caucasian scores in Mastery Experience on the MPSES ( $p < .001$ ), but reached significance when compared to each race in Vicarious Experience, Social/Verbal Persuasion, both significant at the .05 level. Similar to the result achieved by African-American in comparison to Two or more races/Mixed in Mastery Experience ( $p = .172$ ), this same comparison did not reach significance in Physiological States ( $p = .103$ ). Further analysis indicated significance among Caucasian and Two or more races/Mixed only in Mastery Experience ( $p < .05$ ), but not in the other domains: Vicarious experience ( $p = 1.00$ ), Social/Verbal Persuasion ( $p = .56$ ), Physiological States ( $p = .18$ )

## **Relationship Between MPSES and CASES**

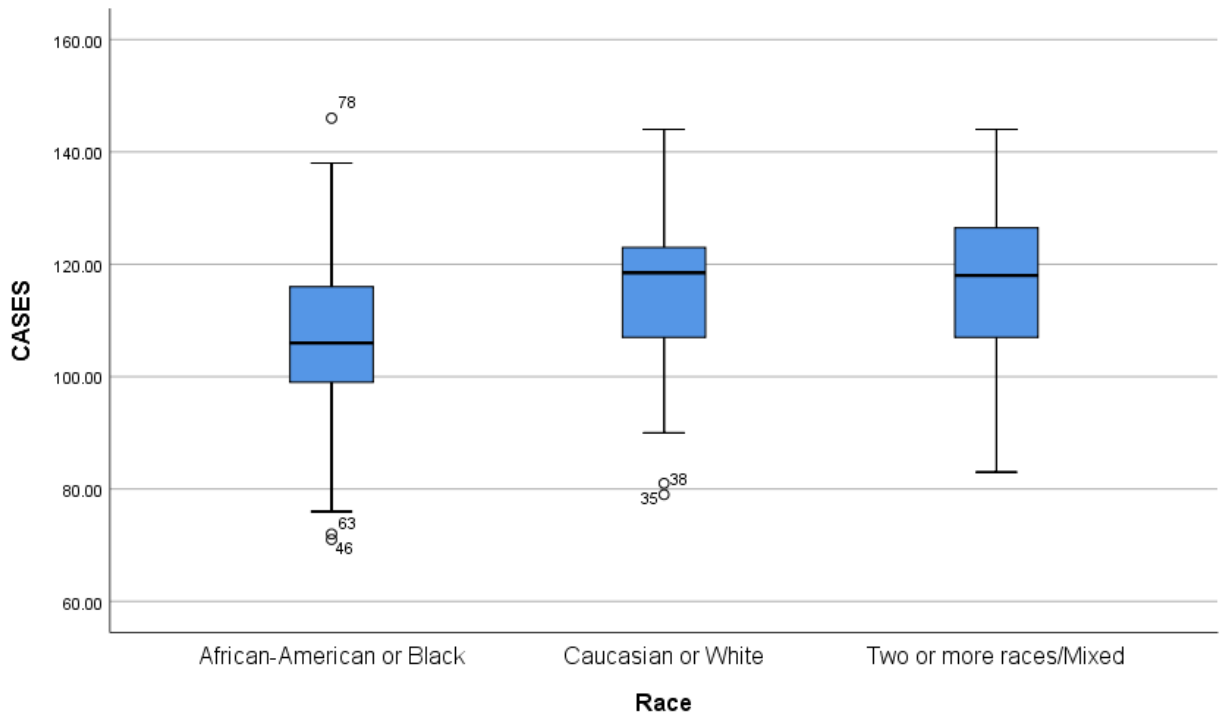
To understand the relationship among participants' responses on the MPSES and the CASES, the investigator used Pearson's Product-Moment Correlation to analyze the data. Using Pearson's  $r$  is an appropriate statistical procedure to use as the purpose to discover if these two variables are related and if so, what is the strength? Research question two presents the findings of this study, first providing descriptive statistics as a framework in understanding the analysis.

### *Research Question Two*

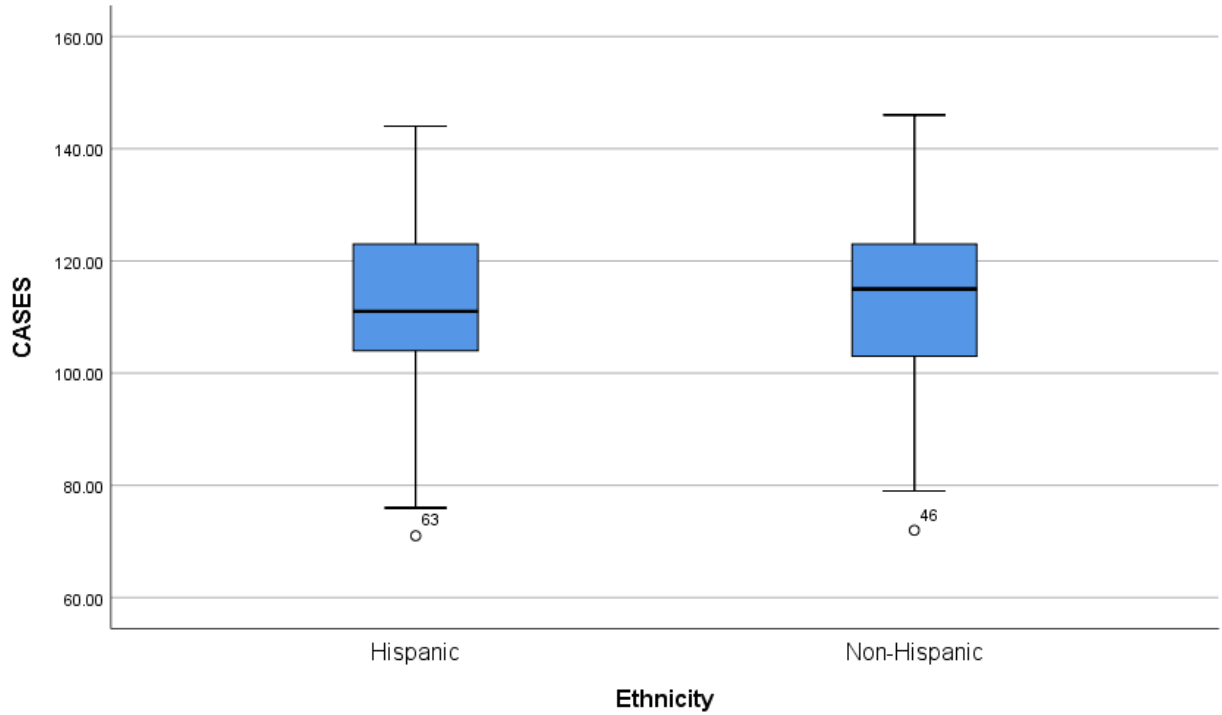
The second research question addressed the strength of the relationship between the MPSES and the CASES. The CASES, like the MPSES, is a self-efficacy self-reporting measure where participants provided responses in a Likert-scale manner which indicated their level of efficacy pertaining to specific tasks. The maximum score a participant can obtain is 165 points and is calculated by summing all their responses together. The lowest score is 33. A total of 71 male ( $M = 114.18, SD = 15.8$ ) and 86 females ( $M = 111.6, SD = 14.91$ ) completed this part of the study. By race, African-American ( $n = 55$ ) participants produced the lowest mean ( $M = 106.32, SD = 15.73$ ) than that of Caucasian ( $n = 56, M = 115.88, SD = 13.98$ ) and Mixed ( $n = 47, M = 116.62, SD = 14.01$ ). Lastly, by ethnicity, Hispanic participants ( $n = 69$ ) average score ( $M = 111.46, SD = 14.97$ ) was less than that of the non-Hispanic participants ( $M = 113.8, SD = 15.51$ ). Table 3 provides further descriptive statistics of the data with CASES as the factor. Additionally, the following figures provides an illustration of the range and dispersion of the data by race, and ethnicity with the same factor.

**Table 3: Descriptive Statistics for CASES**

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Min.	Max.
						Lower Bound	Upper Bound		
<b>Race</b>									
	African-American/Black	55	106.34	15.73	2.12	102.09	110.6	71	146
	Caucasian/White	56	115.88	13.98	1.87	112.13	119.62	79	144
	Two or more races/Mixed	47	116.62	14.01	2.04	112.5	120.73	83	144
<b>Ethnicity</b>									
	Hispanic	69	111.46	14.97	1.8	107.87	115.06	71	144
	Non-Hispanic	89	113.8	15.51	1.64	110.53	117.07	72	146



**Figure 3. CASES Boxplot by Race**



**Figure 4.** *CASES Boxplot by Ethnicity*

To understand the relationship, a Pearson Product-Moment Correlation was used to analyze the data. All the correlations were positively related. It is important to note that CASES correlated largely to the Vicarious Experiences on the MPSES ( $r = .69$ ), while Mastery Experience ( $r = .13$ ), Verbal/Social Persuasion ( $r = .18$ ), and Physiological States ( $r = .13$ ) showed a small correlation. Verbal/Social Persuasion did reach significance at the .05 level. Additional correlations may be found in Table 4.

**Table 4:** Correlation Between CASES and Sources of Self-Efficacy on MPSES

	CASES	Mastery Experiences	Vicarious Experiences	Verbal/Social Persuasion	Physiological States
CASES		0.13	0.69	.18*	0.13
Mastery Experiences			.60**	.90**	.75**
Vicarious Experiences				.61**	.52**
Verbal/Social Persuasion					.78**
Physiological States					

Note 1: CASES = College academic self-efficacy scale; \* indicates significant at the 0.05 level (2-tailed); \*\*. Correlation is significant at the 0.01 level (2-tailed).

Note 2:  $N = 158$ .

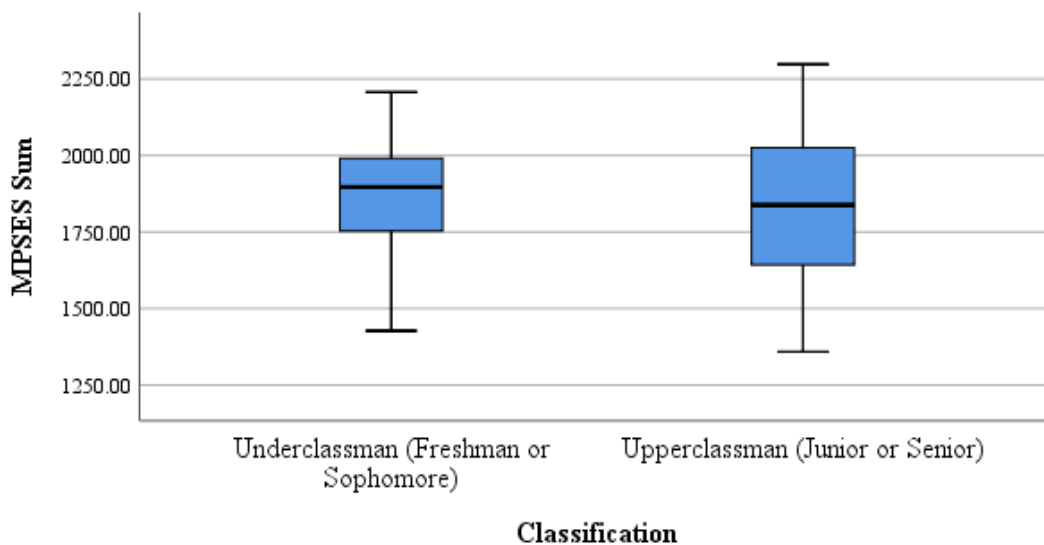
### Predictors of Music Performance Self-Efficacy

This study asked participants to provide demographic information to further provide context of the type of respondents who took part in the study. No personal identification information was collected. The purpose of this data was to identify which of the demographic variables would best predict one's score on the MPSES. A higher score on the MPSES indicated that a person was more self-efficacious towards music performance. The statistical analysis in this section provides descriptive statistics as a framework in understand the data and the results of the multiple regression analysis.

#### Research Question Three

To provide context for research question three, the following table provides descriptive statistics for the additional variables analyzed in this study and boxplots provided for visual display. Descriptive statistics for race and ethnicity were provided when discussing research question one but are also noted on this table. As for classification, 82 participants identified as

“Underclassman” (Freshman or Sophomore) ( $M = 1872.59, SD = 184.81$ ) and 76 were classified as “Upperclassman” (Junior or Senior) ( $M = 1839.87, SD = 233.56$ ). Music majors ( $n = 71$ ) averaged higher ( $M = 1871.89$ ) than Non-Music Majors ( $n = 87$ ) ( $M = 1844.57, SD = 200.54$ ); however, the range of scores was wider for non-music majors. Two participants engaged in a performance ensemble from one to three years ( $M = 1741.50, SD = 106.77$ ), 52 participated for four to seven years ( $M = 1845.37, SD = 188.2$ ) and 104 engaged in a performance ensemble for eight to 12 years and had the highest mean of the three groups ( $M = 1864.81, SD = 221.25$ ). Participants who practiced zero to two hours per week ( $n = 71$ ) had the lowest mean ( $M = 1829.76, SD = 203.28$ ) among the four groups: three to five hours/week ( $M = 1871.11, SD = 214.1$ ), six to ten hours/week ( $M = 1855.08, SD = 222.04$ ); 11+ hours/week ( $M = 1912.77, SD = 204.21$ ). The data showed that as the participants engaged in more years of private instruction, the scores on the MPSES increased. To illustrate, participants with no private instruction ( $n = 82$ ) scored the lowest ( $M = 1804.99, SD = 192.49$ ) in converse to those who studied privately for six to ten years ( $n = 8$ ) who had the highest scores ( $M = 2059, SD = 184.19$ ). Participants who studied for one to two years ( $n = 38$ ) and three to five years ( $n = 30$ ) had scores between the aforementioned groups.



**Figure 5.** Boxplot for Classification



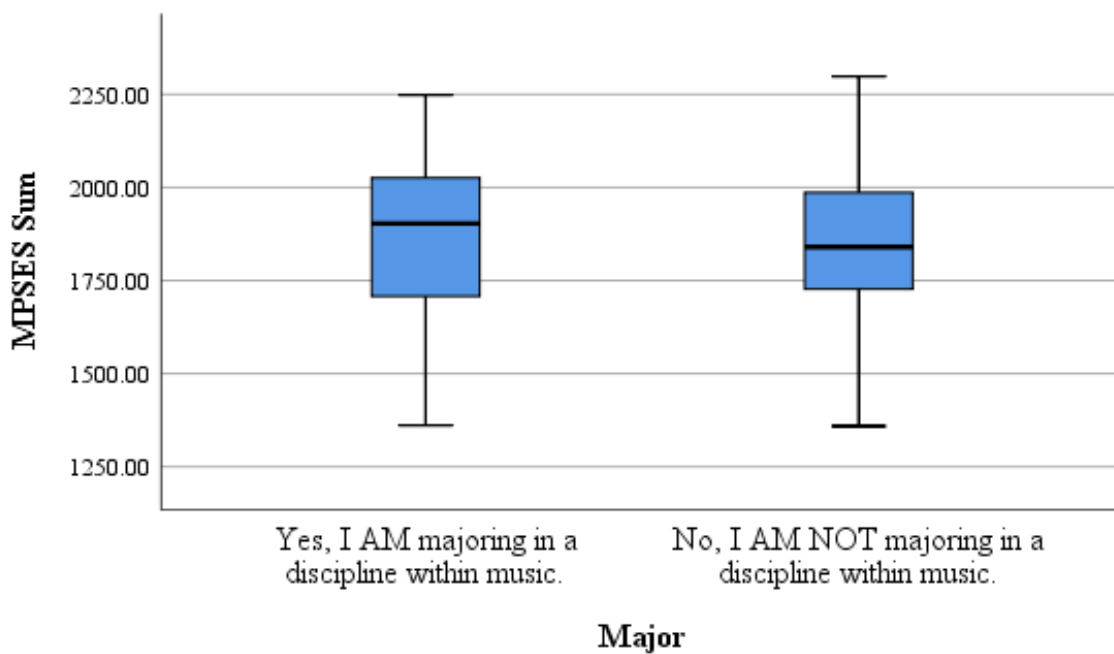


Figure 6. Boxplot for Major

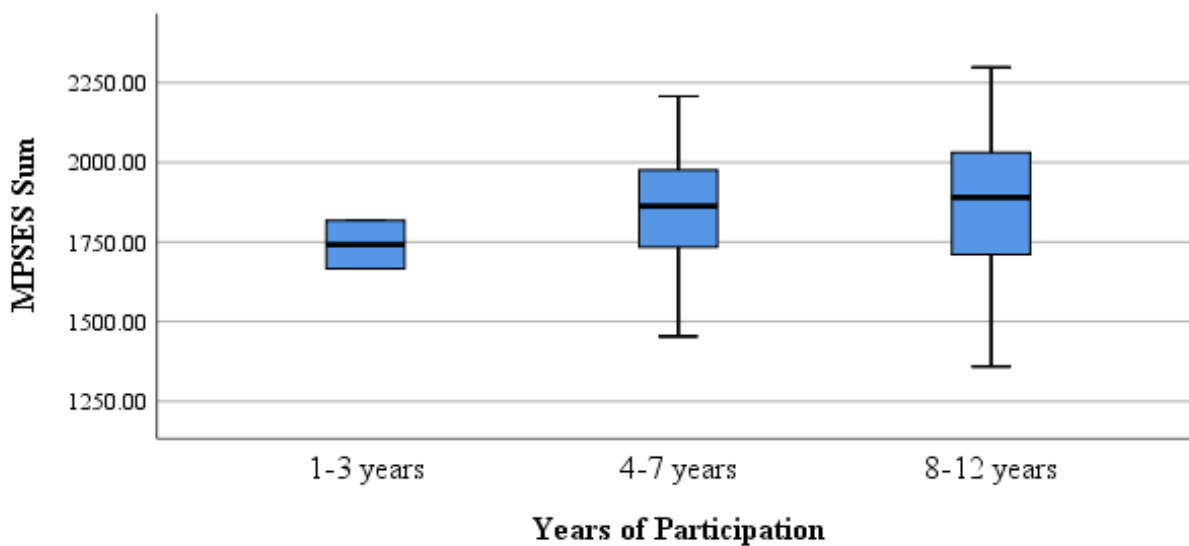
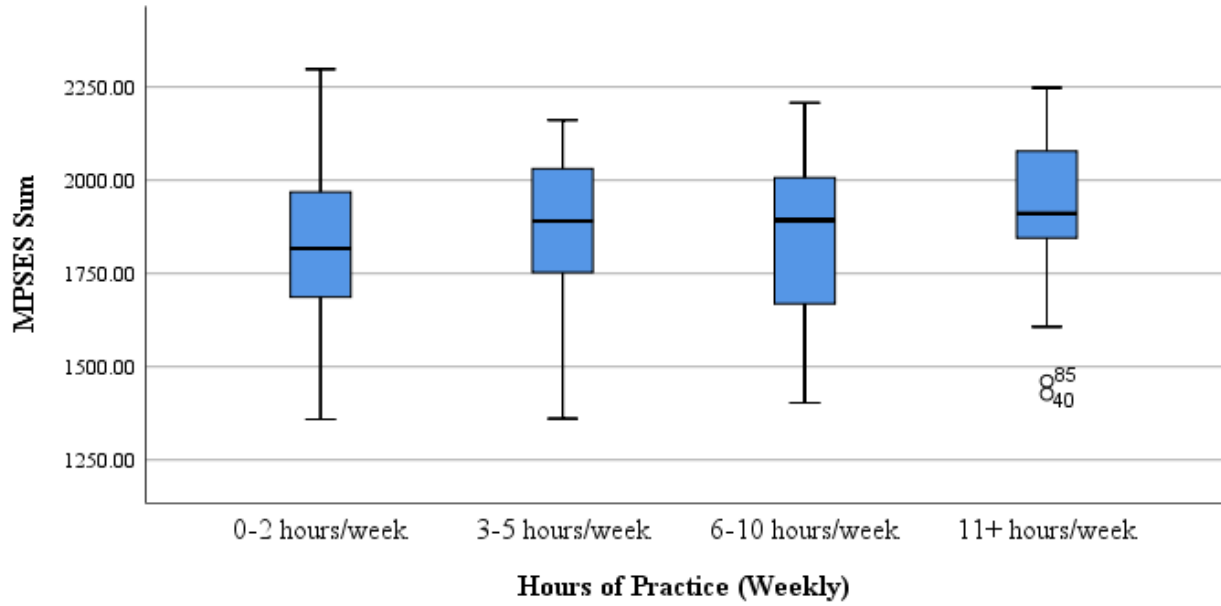
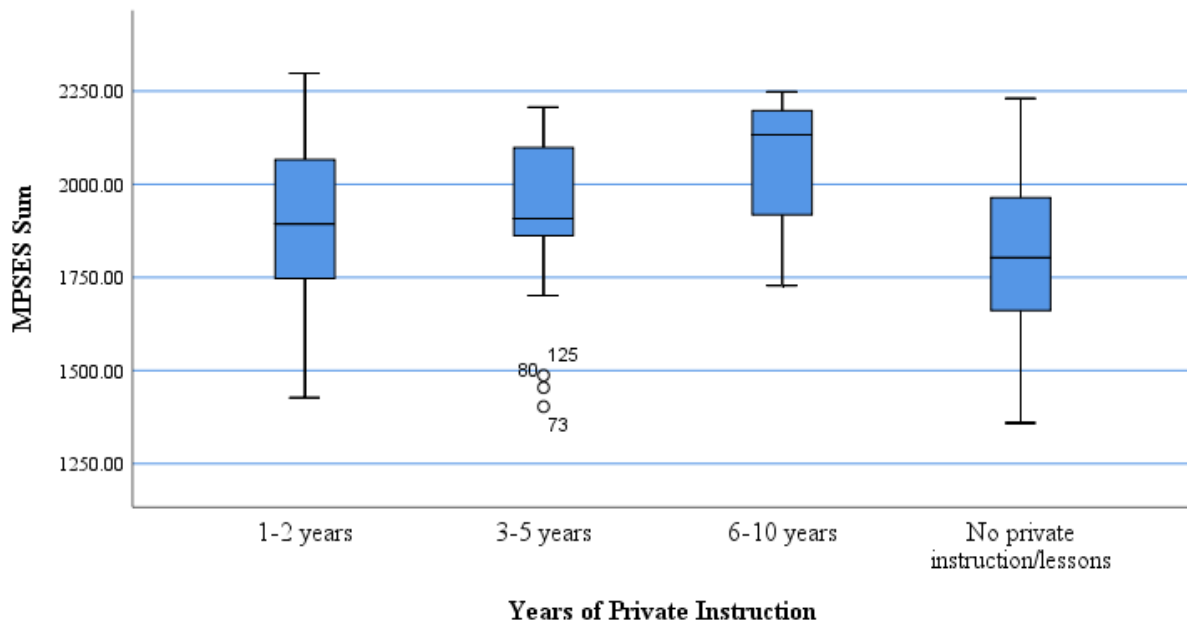


Figure 7. Boxplot for Years of Participation



**Figure 8.** Boxplot for Hours of Practice (Weekly)



**Figure 9.** Boxplot for Years of Private Instruction

**Table 5: Descriptive Statistics by Demographic Data on MPSES**

		N	Mean	Std. Deviation	Std. Error	95% CI for Mean		Min.	Max.	Skewness	Kurtosis
						Lower Bound	Upper Bound				
<b>Race</b>											
	African-American or Black	55	1754.73	192.51	25.96	1702.68	1806.77	1359	2223	0.15	-0.07
	Caucasian or White	56	1937.14	201.79	26.96	1883.1	1991.18	1361	2298	-0.94	0.83
	Two or more races/Mixed	47	1880.68	192.11	28.02	1824.27	1937.09	1469	2248	-0.33	-0.37
<b>Ethnicity</b>											
	Hispanic	69	1873.77	212.68	25.6	1822.68	1924.86	1361	2248	-0.32	-0.52
	Non-Hispanic	89	1843.73	207.5	21.99	1800.02	1887.44	1359	2298	-0.31	-0.42
<b>Classification</b>											
	Underclassman	82	1872.59	184.81	20.41	1831.98	1913.19	1427	2207	-0.44	-0.23
	Upperclassman	76	1839.87	233.56	26.79	1786.5	1893.24	1359	2298	-0.15	-0.74
<b>Major</b>											
	Music Major	71	1871.89	220.78	26.2	1819.63	1924.15	1361	2248	-0.44	-0.48
	Non-Music Major	87	1844.57	200.54	21.5	1801.83	1887.32	1359	2298	-0.21	-0.4
<b>Years of Participation</b>											
	1-3 Years	2	1741.5	106.77	75.5	782.18	2700.82	1666	1817		
	4-7 Years	52	1845.37	188.2	26.1	1792.97	1897.76	1454	2207	-0.26	-0.44
	8-12 Years	104	1864.81	221.25	21.7	1821.78	1907.84	1359	2298	-0.37	-0.52
<b>Hours of Practice (Weekly)</b>											
	0-2 hours/week	71	1829.76	203.28	24.12	1781.65	1877.88	1359	2298	-0.06	-0.46
	3-5 hours/week	18	1871.11	214.1	50.46	1764.64	1977.58	1361	2161	-1.1	1.15
	6-10 hours/week	38	1855.08	222.04	36.02	1782.1	1928.06	1403	2208	-0.24	-0.82
	11+ hours/week	31	1912.77	204.21	36.68	1837.87	1987.68	1427	2248	-0.63	0.23
<b>Years of Private Instruction</b>											
	1-2 Years	38	1882.89	221.17	35.88	1810.2	1955.59	1427	2298	-0.44	-0.49
	3-5 Years	30	1911.7	202.38	36.95	1836.13	1987.27	1403	2207	-0.98	1
	6-10 Years	8	2059	184.19	65.12	1905.02	2212.98	1728	2248	-0.86	-0.4
	No Private Instruction	82	1804.99	192.49	21.26	1762.69	1847.28	1359	2230	-0.17	-0.46

The last research question included a focus on the relationship between demographics variables and the MPSES. Specifically, which of the variables is a significant predictor of music performance self-efficacy? Table 6 outlines the coefficients with the MPSES as the dependent variable. A multiple regression analysis was used to test if gender, age, race, ethnicity, classification, major, years of participation, hours of practice (weekly), or years of private instruction predicted participants' score on the MPSES. The results of the regression indicated that the predictors explained 36.4% of the variance ( $R^2 = .13$ ,  $F(9, 148) = 2.14$ ,  $p < .01$ ). The analysis found that race significantly predicted one's score on the MPSES ( $\beta = .26$ ,  $p < .001$ ) as did Years of Private Instruction ( $\beta = .24$ ,  $p < .05$ ) when all other variables were held constant.

**Table 6:** *Coefficients of Predictors on the Music Performance Self-Efficacy Scale (MPSES)*

Model		Unstandardized		Standardized		Sig.
		Coefficients		Coefficients		
		B	Std. Error	Beta	t	
1	(Constant)	1591.34	192.94		8.25	.00
	Gender	11.97	32.03	.03	.37	.71
	Age	-4.30	20.62	-.03	-.21	.83
	Race	67.97	21.38	.26	3.18	< .001
	Ethnicity	6.72	34.64	.02	.19	.85
	Classification	-28.51	51.17	-.07	-.56	.58
	Major	61.33	60.27	.15	1.02	.31
	Years of Participation	13.60	37.64	.03	.36	.72
	Hours of Practice (Weekly)	42.21	25.62	.24	1.65	.10
	Years of Private Instruction	-19.02	9.60	-.16	-1.98	.05

a. Dependent Variable: MPSES

## Summary

This study sought to examine differences in music performance self-efficacy by race and ethnicity. Participants completed the MPSES, CASES, and a demographics questionnaire. A total of 158 responses were analyzed using a MANOVA, Pearson's  $r$ , and a multiple regression. A baseline analysis of the data indicated a significant difference by race ( $p < .001$ ), with a Tukey HSD noting differences between African-American and Caucasian ( $p < .001$ ) and African-American when compared to Two or more races/Mixed ( $p < .01$ ). The MANOVA was administered to test race and ethnicity together which showed a significant effect for race ( $p < .001$ ) but not ethnicity ( $p = .590$ ) nor race\*ethnicity ( $p = .618$ ). Further analysis indicated significance on all four sources of self-efficacy, test additionally with a Bonferroni procedure showing differences between African-American and Caucasian ( $p < .001$ ) and African-American and Two or more races/Mixed ( $p < .05$ ). Pearson's  $r$  between MPSES and CASES showed a strong correlation between the CASES and the Vicarious Experiences domain on the MPSES ( $r = .69$ ). Lastly, the multiple regression analysis revealed Race ( $p < .00$ ) was the most significant predictor of a participant's score on the MPSES, followed by Years of Private Instruction ( $p < .05$ ).

## CHAPTER 5

### DISCUSSION

This study was guided by three specific research questions:

1. Does a significant difference by race or ethnicity exist in music performance self-efficacy among undergraduate students in performing ensembles?
2. What is the strength in relationship between music performance self-efficacy and academic self-efficacy?
3. Which variable(s) predict music performance self-efficacy?

The results of this study showed that there is a significant difference by race ( $p < .001$ ) in as a whole and specifically in all four areas of self-efficacy when analyzed separately. Ethnicity showed no significance. Therefore, the study concludes that there is a significant difference in the mean score by race but not by ethnicity. Additionally, CASES had the strongest correlation to Vicarious Experiences on the MPSES ( $r = .69$ ). Lastly, results indicated that race ( $p < .001$ ) is the most significant predictor of a participant's score on the MPSES, followed by Years of Private Instruction ( $p < .05$ ).

#### **Race and Self-Efficacy in General Education**

These results are consistent with previous research that showed differences in self-efficacy by race in various types of research from early childhood (Joët, Usher, & Bressoux, 2011), to collegiate students (Robbins et al., 2004) and in various academic domains like Algebra (Zimmerman & Martinez-Pons, 1990) and Writing (Schunk & Johnson, 1995). Mastery Experiences, which is an individual's past experiences of successes and failures when engaged in

an activity (Bandura, 1972), is an area that is highlighted frequently. Differences by race, in general education, may be due to the inequality in educational experiences provided to students. Researcher Darling-Hammond (2001) concluded that the least amount of funding is directed towards high poverty, high minority institutions. Additionally, Darling-Hammond (2001) confirms other studies that further show that the same schools receive fewer instructional resources than institutions within the same district. Nearly two-thirds of minority students are enrolled in high-minority institutions, most of which are in central cities (Schofield, 1991, p. 336). With the lack of additional resources to support engaging activities, African-American students who attend these institutions are not afforded equitable opportunities to increase their self-efficacy through Mastery Experiences. Inequality in educational experiences does not cease with Mastery Experiences, but also influences Vicarious Experiences as well.

Significant differences by race occurred within the domain of Vicarious Experiences on the MPSES. Vicarious Experiences refer to one's judgement whether he/she will succeed in a task based on their assessment of another person who is deemed similar in skill and ability (Bandura, 1972). MacPhail-Wilcox and King (1986) summarized their results in stating school expenditures level correlated positively to socioeconomic status and negative to educational need. Furthermore, their study concluded that higher salaried teachers are located in high-income, low-minority schools. Teacher-to-student ratio is lower in high-income, low-minority schools and converse to low-income, high-minority schools. All of these factors contribute to the achievement gap, particularly between African-American and Caucasian students. With fewer students achieving in predominantly African-American institutions, the vicarious experiences that are being processed is negatively impacting their overall self-efficacy. As Bandura (1972) writes, school environment impacts one's self-efficacy and it suggested that observing others who are failing academically

impacts self-efficacy. This conclusion may be made for the results of this study; however, Verbal/Social Persuasion is also an important component of self-efficacy.

Verbal/Social Persuasion refers to opinions or judgements stated by other people (Bandura, 1972). Studies have outlined the correlations between teacher verbal reinforcement and student self-efficacy; however, this may be due to the teacher's self-efficacy. As noted earlier, the teacher-to-student ratio in low-income, high-minority schools is higher than opposite institutions which may be a factor of increased classroom management issues. Since young, inexperienced teachers are often found in low-income, high-minority schools (Darling-Hammond, 2001). Woolfolk and Hoy (1990) found that teacher self-efficacy beliefs are most malleable during the early years for teachers. With repeated negative experiences in this schools, their teacher self-efficacy is impacted negatively, and fewer positive statements are provided to students. These teachers feel overwhelmed with the workload and additional responsibilities. Many leave the profession after five years. With the high turnover of teachers and non-ideal teaching environments, these contribute to lower levels of teacher self-efficacy. The lack of positive reinforcement and encouragement provided by the teacher may contribute to minority students' lower levels of self-efficacy in converse to their peers. Due to the lack of positive reinforcement, minority students may report lower levels in the Physiological States domain of self-efficacy.

Physiological States is the degree of arousal or enjoyment that occurs when engaged in an activity (Bandura, 1972). Thus far, it has been noted that African-American students are not provided equitable opportunities in education, thus impacting their Mastery Experiences, and do not see enough peers who are similar in skill, succeeding around them (Vicarious Experiences). The lack of encouragement, support, and praise (Verbal/Social Persuasion), this could be attributed to an overall lack of enjoyment in the activity (Physiological States). Although these differences



seem logical when discussing race, it is interesting that this study did not find a significant difference by ethnicity on the MPSES.

### **Race and Music Education in the United States**

Music education in the United States derives heavily from the music traditions of Western Europe. Composers such as Bach, Mozart, and Beethoven are introduced into the primary years and students later engage in band, chorus, or orchestra in the secondary years. The music performed by these ensembles, again, reflect Western European practices. The issue is that students from culturally and linguistically diverse backgrounds do not see themselves reflected in the music that is being taught in school. Due to this, students do not feel connect to the music that is being learned in school.

Abril (2009) cites that there is a disconnect between the music experience in school and the music students engage in outside of school. Students are being taught music in schools that do not reflect their home culture nor the society in which they exist; therefore, the disconnect is frustrating for students when being exposed to Western European music because it does not resonate with them personally nor culturally. Undergraduate students at the university level have expressed this disconnect between the music being studied (conservatory-like Western European ideologies) and other musics, such as popular music (Clements & Campbell, 2006). If students at the collegiate level are still being trained to maintain the philosophy that Western European music is what students at the primary and secondary levels need to know and do, are we truly honoring and celebrating the diversity within schools?

Research points to the idea that a diverse workforce benefits students (Cherng & Halpin, 2016); however, there is a lack in diversity of music educators in the field. In fact, Elpus (2015) collected demographic information of music educators ( $N = 20,521$ ) who were administered the

Praxis II test, a music teacher licensure, showed that 86.02% of the candidates were White. Elpus noted that people of color were significantly underrepresented and found that the scores were associated to race, sex, and other demographics listed. This issue is further perpetuated by the students who enroll in undergraduate programs as music major where Rickels et al., (2013) conducted a study at eight universities citing that 80% of the students were white. Elpus (2015) mentions a “leaky pipe” in the music teacher licensure process that “excludes potential music educators systematically by race and ethnicity, “ (p. 317) in favor of Caucasian students. Though, it must be stated that Cherng and Halpin (2016) concluded that students, disregarding race, favored minority teachers and White teachers. Additionally, racial minority teachers also possess the cultural competencies and identity to work with other minority students, building meaningful relationship and communicating high expectations for learning (Sleeter & Milner, 2011).

Coupled with the lack of racial diversity among music educators, the cultural diversity in music education still falls short in favor of the Western European ideologies of the classical music. This also may be attributed to differences in self-efficacy among race, as concluded in this study. Cultural diversity in music education has been a topic of discussion since the Tanglewood Symposium in 1967, which declared that “music of all periods, styles, forms, and cultures belong to the curriculum;” however, this is not the case. Western European classical music dominates the music education field today although newer courses such as Guitar and Modern Band (such as Rock Bands, iPad ensembles, etc.) have taken hold recently (Cain et al., 2013). Students from background other than White do not see themselves reflected in the music and lose interest, impacting their overall performance in music. This may also be associated with motivation for music learning although this is not a construct that was measured in this study. What can be hypothesized is that participants who experienced have a lower self-efficacy, particularly African-

American students, may have been negatively impacted by the lack of diversity in music educators and also the music being learned and performed in their ensembles.

### **Ethnicity and Self-Efficacy**

The lack of differences in self-efficacy by ethnicity at the collegiate level differed from the underlying hypothesis. Studies in secondary students have found differences in various domains. For example, Pajares and Johnson (1996) found significant differences in writing self-efficacy of high school Hispanic students as compared to non-Hispanic classmates. One may infer that language was a significant factor that played a role in Hispanic participants' self-efficacy towards writing; however, that cannot be assumed as causal. In another secondary school study, Fuentes-Tauber (2018) studied 89 students and found differences by ethnicity on Bandura's Children's Self-Efficacy Scale and the College-Going Self-Efficacy Survey. While researchers, like Pajares and Johnson (1996) have noted differences at the secondary level, collegiate studies show different results.

In a study of 394 collegiate students from Southern Adventist University, Daly Stennis (2016) found that there were no differences in self-efficacy among ethnic groups. This study collected responses on the New General Self-Efficacy Scale (Chen, et. al., 2001). The authors reported results of an ANCOVA that revealed no significant differences in self-efficacy scores among ethnic groups,  $F(4, 370) = 1.36, p = 0.248$ , when all of the variables were held constant. Chung (2002) conducted a study examining career decision-making self-efficacy among 165 undergraduates in a Southern University. Consistent with Daly Stennis (2016), Chung (2002) also did not find a significant difference by ethnicity. This possibly leads to the question of why racial differences still exist at the collegiate level, but differences are not seen by ethnicity?

Race studies in education have also shown that African-American students academically perform lower than their White peers (Bali & Alvarez, 2004). It has thus led researchers to use race as a predictor of academic achievement (Steele-Johnson & Leas, 2013). Steele-Johnson and Leas (2013) studied 719 college participants and revealed that race interacts with personality in predicting academic achievement. The literature needs studies that examine whether race is a predictor of musical self-efficacy. Nevertheless, this study did show that race is the most significant predictor of a participant's score on the MPSES; however, there were a few limitations that must be taken into considering when interpreting the results.

### **Limitations**

Sample size and sample profile are two limitations that are connected to each other. Due to the restriction in the type of participant, the sample profile omitted current undergraduate students who participate in music, but not a university-registered course. Due to the specificity of the sample profile, the sample size was not a large nor evenly dispersed, regarding ethnicity, as was needed. This may be in part due to the timing of the study which is another limitation. In the United States, collegiate students are not required, unless dictated by their program, to take courses over the summer. Since this study sought college students, communications were sent via social media and communicating with colleagues at collegiate level who then disseminated the information to their students. During the summer months, college students are not as active with school-related messages as during the Fall and Spring when they are enrolled in classes. Therefore, due to the timing of the study, recruitment limitations contributed to the small sample size.

### **Implications**

Based on the results of this study, several implications for music educators can be made. First, significant differences in music performance self-efficacy exist between African-American

and Caucasian, and African-American and those students reporting Two or more races or Mixed race. Results of this study can help to guide curricular decisions by providing equitable opportunities to all students. Teachers can plan various activities and scenarios to increase the music performance self-efficacy of African-American students to reach a similar level as their peers. Additionally, music educators at the collegiate level can provide pre-service students with tools and skills to aid in improving the self-efficacy of all students, specifically understanding the needs of African-American students in their classrooms who may demonstrate a lower level of music performance self-efficacy.

Another implication is that students use vicarious experiences to gauge their own success across domains. In this study, a participant's score on the CASES strongly correlated to Vicarious Experience on the MPSES. Students will indirectly compare the ability of a student who they deem is similar in skill to themselves to determine their likelihood of being successful on the task. In music class, this differentiation is heightened when ensembles are ranked hierarchical. Music educators should provide opportunities for students to experience success equally. It is necessary to plan tasks/activities where each student has an equitable opportunity to succeed, regardless of their ability. Therefore, students may not view other classmates as being more capable than them and may exert more effort or experience a higher level of self-efficacy to match their peers.

Using positive reinforcement to praise students is crucial for the development of musicians. Music educators can increase a student's self-efficacy by positively impacting their verbal/social persuasion domain. This is particularly true for struggling students. By providing encouragement and more opportunities to succeed, the self-efficacy of these students will improve. Additionally, the student will enjoy engaging in the musical task, thus stimulating their physiological states. All of these implications for music education directly impact the self-efficacy of students in schools.

Employing culturally-responsive practice in the music classroom will help in moving music education to one that is more culturally inclusive. A method that “*necessitates inclusion and authenticity*” (Nieto, 2004, p. 353), culturally-responsive instruction seeks to learn about the entire person and the people around them, respecting and honoring the diverse cultural characteristics. Rooted in constructivist theories, culturally-responsive instruction views learning as dependent on social interactions and learners’ cultural lens as well as lived experiences (Villegas & Lucas, 2007). To employ culturally-responsive teaching practices in the music classroom, music educators must be aware of the cultural differences in their classroom and use those to enrich the experience for all students. For example, teachers can invite various guests to the classroom to engage in discussion and perform music authentic to their culture. From there, students can participate in a hands-on experience that not only exposes them to different arrays of music, but also provides an authentic cultural connection among students who are also represented in the music. In short, culturally-responsive instruction “*attempts to provide all children with equitable learning experiences*” (Lind & McCoy, 2016, p. 20).

The “achievement gap” is a term familiar to education which notes the deficits in academic performance by race; however, Milner (2012) proposes a theoretical framework called the “opportunity gap” which brings light to the inequalities in resources and structures that created the deficits. In this framework, Milner (2012) highlights five areas that address the opportunity gap: 1) rejection of color blindness; 2) ability and skill to understand, work through, and transcend cultural conflicts; 3) ability to understand how meritocracy operates; 4) ability to recognize and shift low expectations and deficit mindsets; and 5) rejection of context-neutral mindsets and practices. While all of these speak to music education, the focal point will be the first area, “rejection of color blindness.” As mentioned previously, music education is taught by Caucasian

men and women who provide instruction based on Western European classical standards; however, to reject color blindness, music educators acknowledge that curricula and social constructs are centered around White contributions and cultural norms. Yet, the Tanglewood Symposium declared that all music should be taught in schools. As music educators, we must begin to recognize that the music and curricular choices that are made exclude students from various cultures. To combat this, moving towards a multicultural music education will benefit all students and is associated in increasing self-efficacy in performance and achievement (Banks, 2016; Gay, 2010).

### **Future Research**

Literature pertaining to music performance self-efficacy in performing ensembles can benefit from additional studies examining differences in race and ethnicity at the collegiate level. Most students in education look at factors such as achievement or graduation rates; however, little has been done analyzing races regarding music performance self-efficacy. Within this study at the collegiate level, it would be interesting to compare the music performance self-efficacy of African-American students at predominantly white institutions to those that attend a historically black college/university and, again, identifying if there is a correlation between their academic and music self-efficacies. This would further affirm Bandura's (1977) notion that school, or the environment, can influence the development of one's self-efficacy.

In continuing with this theme, future research includes examining differences in music performance self-efficacy among students in Title I and non-Title I schools. Research have noted the inequalities between the two types of schools; however, does the type of school impact one's self-efficacy for music performance or are there other factors, such a socioeconomic status, that play a role? Understanding, whether there is a significant difference helps researchers to ask additional questions to probe specified variables.

The present study illustrated differences in musical performance self-efficacy between races, specifically African-Americans when compared to others. This finding is consistent with research that examine differences in race in academic settings such as writing, math, and reading. Future research in this area should address the following questions: How does one's music performance self-efficacy change over time in instrumental studies? What role does school music environment and teacher quality play in the development of one's music performance self-efficacy? Which academic factors best predict self-efficacy for music performance? Research questions such as these will continue to move the field of music education forward. Music performance self-efficacy is important to the continuation of lifelong learning in music for all learners.



## REFERENCES

- Alivernini, F., & Lucidi, F. (2011). Relationship between social context, self-efficacy, motivation, academic achievement, and intention to drop out of high school: A longitudinal study. *The Journal of Educational Research*, 104, 241-252.  
doi:10.1080/00220671003728062
- Andrew, E. (2019). The effect of music performance self-efficacy on high school students' participation in instrumental music adjudication [ProQuest Information & Learning]. In *Dissertation Abstracts International Section A: Humanities and Social Sciences* (Vol. 80, Issue 11–A(E)).
- Aydin, Y. C., & Uzuntiryaki, E. (2009). Development and psychometric evaluation of the high school chemistry self-efficacy scale. *Educational and Psychological Measurement*, 69, 868–880. doi:10.1177/0013164409332213
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, 84(2), 191-215.
- Bandura, A. (1986) *Social Foundations of Thought and Action: A Social Cognitive Theory*. Englewood Cliffs, NJ: Prentice-Hall.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: W.H. Freeman and Co.
- Bandura, A. (2006). Guide for constructing self-efficacy scales. In F.Pajares & T.Urdan (Eds.), *Self-efficacy beliefs of adolescents*, (pp. 307–337). Greenwich, CT: Information Age Publishing.

- Bong, M., & Clark, R. E. (1999). Comparison between self-concept and self-efficacy in academic motivation research. *Educational Psychologist*, 34, 139-153.
- Bouffard-Bouchard, T., Parent, S., & Parivee, S. (1991). Influence of self-efficacy on self-regulation and performance among junior and senior high-school age students. *International Journal of Behavioral Development*, 14, 153-164.
- Brady-Amoon, P., & Fuertes, J. (2011). Self-efficacy, self-rated abilities, adjustment, and academic performance. *Journal of Counseling and Development*, 89, 431e438. <http://dx.doi.org/10.1002/j.1556-6676.2011.tb02840.x>.
- Brower, A. M., & Ketterhageng, A. (2004). Is there an inherent mismatch between how Black and White students expect to succeed in college and what their colleges expect from them? *Journal of Social Issues*, 60, 95-116.
- Brown, C., III, M., & Dancy, E., II, (2010). Predominantly white institutions. In K. Lomotey (Ed.), *Encyclopedia of African American education* (pp. 524-526). SAGE Publications, Inc., <https://www.doi.org/10.4135/9781412971966.n193>
- Bugos, J. A., & Cooper, P., (2019). The Effects of Mallet Training on Self-Efficacy and Processing Speed in Beginning Adult Musicians. *Research Perspectives in Music Education*, 20(1), 21-32
- Bugos, J. A., Kochar, S., & Maxfield, N. (2016). Intense piano training on self-efficacy and physiological stress in aging. *Psychology of Music*, 44(4), 611–624.
- Bugos, J., & Kochar, S. (2017). Efficacy of a short-term intense piano training program for cognitive aging: A pilot study. *Musicae Scientiae*, 21(2), 137–150. <https://doi-org.ezproxy.lib.usf.edu/10.1177/1029864917690020>

- Cassidy, S., & Eachus, P. (2002 March 13-16). The development of the general academic self-efficacy scale (GASE). Paper presented at the British Psychological Society Annual Conference, Blackpool, UK.
- Clark, J. L. C. (2008). String student self-efficacy and deliberate music practice: Examining string students' musical background characteristics, self-efficacy beliefs, and practice behaviors (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (UMI No. 3352078)
- Combs, J. E. (2001). Academic self-efficacy and the over prediction of African American college student performance. (Unpublished doctoral dissertation). University of California, Santa Barbara, CA.
- Cuyjet, M. J. (1997). African American men on college campuses: Their needs and their perceptions. In M. J. Cuyjet (Ed.), *Helping African American men succeed in college* (pp. 5-16). San Francisco, CA: Jossey-Bass.
- Daly Stennis, S. L. (2016) "Ethnic Differences in Self-Efficacy at Southern Adventist University," *Journal of Interdisciplinary Undergraduate Research*: Vol. 8 , Article 3.
- Davison, P. D. (2006). The role of self-efficacy and modeling in improvisation: The effects of aural and aural/notated modeling conditions on intermediate instrumental music students' improvisation achievement. (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (UMI No. 3254179)

- DeFreitas, S. C. (2012). Differences between African American and European American first-year college students in the relationship between self-efficacy, outcome expectations, and academic achievement. *Social Psychology of Education, 15*(1), 109e123.  
<http://dx.doi.org/10.1007/s11218-011-9172-0>.
- DiBenedetto, M. K., & Bembenutty, H. (2011, April 8e12). Within the pipeline: self-regulated learning and academic achievement among college students in science courses. In Paper presented at the annual meeting of the American educational research association, New Orleans, LA.
- Eccles, J. (1983). Expectancies, values and academic behaviors. In J. T. Spence (Ed.), *Achievement and achievement motives* (pp. 75- 146). San Francisco: Freeman
- Eccles, J. S. (1987). Gender roles and women's achievement-related decisions. *Psychology of Women Quarterly, 11*, 135-172.
- Eccles, J. S., & Midgley, C. (1989). Stage-environment fit: Developmentally appropriate classrooms for young adolescents. In C. Ames & R. Ames (Eds.), *Research on motivation in education* (Vol. 3, pp. 139-186). San Diego: Academic Press.
- Eccles, J. S., Midgley, C., Wigfield, A., Buchanan, C. M., Reuman, D., Flanagan, C., Mac Iver, D. (1993). Development during adolescence: The impact of stage-environment fit on young adolescents' experiences in schools and in families. *American Psychologist, 48*: 90-101. doi: 10.1037/0003-066X.48.2.90
- Egilmez, H. O., & Engur, D. (2017). An Analysis of Students' Self-Efficacy and Motivation in Piano, Based on Different Variables and the Reasons for Their Failure. *Educational Research and Reviews, 12*(3), 155–163.

- Eisenberg, N., Martin, C. L., & Fabes, R. A. (1996). Gender development and gender effects. In D. C. Berliner & R. C. Calfee (Eds.), *Handbook of educational psychology* (pp. 358-396). New York: Macmillan
- Ericsson, K. (2000). How experts attain and maintain superior performance: Implications for the enhancement of skilled performance in older individuals. *Journal of Aging and Physical Activity*, 8, 366–372.
- Ericsson, K., Krampe, R., & Tesch-Roemer, C. (1993). The role of deliberate practice in the acquisition of expert performance. *Psychological Review*, 100, 363–406.  
doi:10.1037/0033-295X.100.3.363
- Fang, N. (2014). Correlation between students' motivated strategies for learning and academic achievement in an engineering dynamics course. *Global Journal of Engineering Education*, 16(1), 6e12.
- Feldman, D. B., & Kubota, M. (2015). Hope, self-efficacy, optimism, and academic achievement: distinguishing constructs and levels of specificity in predicting college grade-point average. *Learning and Individual Differences*, 37, 210e216.  
<http://dx.doi.org/10.1016/j.lindif.2014.11.022>.
- Fenning, B. E., & May, L. N. (2013). Where there is a will, there is an A: examining the roles of self-efficacy and self-concept in college students' current educational attainment and career panning. *Social Psychology of Education*, 16, 635e650.  
<http://dx.doi.org/10.1007/s11218-013-9228-4>.

- Freeman, A. (2018). Mathematics Self-Efficacy and the Smarter Balanced Assessment: An Intersection of Race, Socioeconomic Status and Gender. 120.  
<https://digitalcommons.georgefox.edu/edd/120>
- Gall, M. D., Borg, W. R., & Gall, J. P. (1996). Educational Research (6th ed.). White Plains, NY: Longman Publishers USA.
- Galyon, C. E., Blondin, C. A., Yaw, J. S., Nalls, M. L., & Williams, R. L. (2012). The relationship of academic self-efficacy to class participation and exam performance. *Social Psychology of Education*, 15, 233e249. <http://dx.doi.org/10.1007/s11218-011-9175-x>.
- Graham, S. (1994). Motivation in African Americans. *Review of Educational Research*, 64, 557-118.
- Graham, S., & Weiner, B. (1996). Theories and principles of motivation. In D. C. Berliner & R. C. Calfee (Eds.), *Handbook of educational psychology* (pp. 637-84). New York: Simon & Schuster Macmillan.
- Gun, E., & Yildiz, G. (2014). Development of self-efficacy scale of piano performance towards the pre-service music teacher. *International Periodical for The Languages. Lit. History Turkish or Turkic*. 9/5:1053-1065.
- Hackett, G. (1985). The role of mathematics self-efficacy in the choice of math-related majors of college women and men: A path analysis. *Journal of Counseling Psychology*, 32, 47-56.
- Hair, J.F., Anderson, R.E., Tatham, R.L. and Black, W.C. (1992) *Multivariate Analysis with Readings*, 3rd edn. New York: Macmillan.

- Hallam, S. (1998) 'The Predictors of Achievement and Dropout in Instrumental Tuition', *Psychology of Music* 26(2): 116–32.
- Harter, S., Waters, P., & Whitesell, N. (1997). Lack of voice as a manifestation of false self-behavior among adolescents: The school setting as a stage upon which the drama of authenticity is enacted. *Educational Psychologist*, 32, 153-173.
- Hendricks, K. S. (2009). Relationships between the sources of self-efficacy and changes in competence perceptions of music students during an all-state orchestra event (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (AAT 3362920)
- Hendricks, K. S., Smith, T. D., & Legutki, A. R. (2016). Competitive comparison in music: influences upon self-efficacy beliefs by gender. *Gender & Education*, 28(7), 918–934. <https://doi-org.ezproxy.lib.usf.edu/10.1080/09540253.2015.1107032>
- Hewitt, M. P. (2015). Self-efficacy, self-evaluation, and music performance of secondary-level band students. *Journal of Research in Music Education*, 63, 298–313. doi:10.1177/0022429415595611
- Historical Origins of HBCUs. (2010). *ASHE Higher Education Report*, 35(5), 5 – 9.
- IBM Corp. Released 2020. IBM SPSS Statistics for Windows, Version 27.0. Armonk, NY: IBM Corp
- Introduction and Overview. (2010). *ASHE Higher Education Report*, 35(5), 1 – 4.
- Jinks, J. and Lorsbach, A. (2003) 'Introduction: Motivation and self-Efficacy Belief', *Reading and Writing Quarterly* 19: 113–18.

- Joët, G., Usher, E. L., & Bressoux, P. (2011). Sources of self-efficacy: An investigation of elementary school students in France. *Journal Of Educational Psychology*, 103, 649-663. doi:10.1037/a0024048
- Joreskog, K. & Sorbom, D. (1996) LISREL 8: User's Reference Guide. Chicago: SSI.
- Kenny, D. T., Fortune, J., & Ackerman, B. (2009). What predicts performance excellence in tertiary level music students? In A. Williamon, S. Pretty, & R. Buck (Eds.), *Proceedings of the international symposium on performance science 2009* (pp. 487–492). Utrecht, The Netherlands: European Association of Conservatoires (AEC).
- Laar, C. V. (2000). The paradox of low academic achievement but high self-esteem in African American students: An attributional account. *Educational Psychology Review*, 12, 33-61.
- Lay, R., & Wakstein, J. (1985). Race, academic achievement, and self-concept of ability. *Research in Higher Education*, 22, 437-64.
- Lent, R. W., Lopez, F. G., & Bieschke, K. J. (1991). Mathematics self-efficacy: Sources and relation to science-based career choice. *Journal of Counseling Psychology*, 38, 424–430.
- Liem AD, Lau S, Nie Y 2008. The role of self-efficacy, task value, and achievement goals in predicting learning strategies, task disengagement, peer relationship, and achievement outcome. *Contemporary Educational Psychology*, 33: 486-512.
- Lopez, F. G., & Lent, R. W. (1992). Sources of mathematics self-efficacy in high school students. *Career Development Quarterly*, 41, 3–9.
- Lynch, D. J. (2006). Motivational factors, learning strategies and resource management as predictors of course grades. *College Student Journal*, 40, 423-428.



- Lynch, D. J., & Trujillo, H. (2011). Motivational beliefs and learning strategies in organic chemistry. *International Journal of Science and Mathematics Education*, 9, 1351e1365. <http://dx.doi.org/10.1007/s10763-010-9264-x>.
- Margolis, H., & McCabe, P. P. (2004). Self-efficacy: A key to the motivation of struggling learners. *Clearing House*, 77, 241-247.
- Martin, L. (2012). The Musical Self-Efficacy Beliefs of Middle School Band Students: An Investigation of Sources, Meanings, and Relationships with Attributions for Success and Failure. *Bulletin of the Council for Research in Music Education*, 191, 45–60. <https://doi-org.ezproxy.lib.usf.edu/10.5406/bulcouresmusedu.191.0045>
- Matsui, T., Matsui, K., & Ohnishi, R. (1990). Mechanisms underlying math self-efficacy learning of college students. *Journal of Vocational Behavior*, 37, 225–238.
- Mayo, M. W., & Christenfeld, N. (1999). Gender, race, and performance expectations of college students. *Journal of Multicultural Counseling & Development*, 27, 93-104.
- McCormick, J., & McPherson, G. (2003). The role of self-efficacy in a musical performance examination. *Psychology of Music*, 31, 37–51. doi:10.1177/0305735603031001322
- McPherson, G. E., & McCormick, J. (2000). The contribution of motivational factors to instrumental performance in a music examination. *Psychology of Music*, 31, 37–51. doi:10.1177/1321103X0001500105
- McPherson, G. E., & McCormick, J. (2006). Self-efficacy and music performance. *Psychology of Music*, 34, 322–336. doi:10.1177/0305735606064841

- McPherson, G. E., & Schubert, E. (2004). Measuring performance enhancement in music. In A. Williamon, (Ed.) *Musical excellence: Strategies and techniques to enhance performance* (pp. 61–84). Oxford, England: Oxford University Press.
- Meece, J. L. (1991). The classroom context and students' motivational goals. In M. L. Maehr & P. R. Pintrich (Eds.), *Advances in motivation and achievement* (Vol. 7, pp. 261-285). Greenwich, CT: JAI Press.
- Meece, J. L., & Painter, J. (2012). Gender, self-regulation, and motivation. In D. H. Schunk & B. J. Zimmerman (Eds.), *Motivation and self-regulated learning: Theory, research, and applications* (pp. 339–368). New York, NY: Routledge.
- Meier, S., McCarthy, P. R., & Schmeck, R. R. (1984) Validity of self-efficacy as a predictor of writing performance. *Cognitive Therapy and Research*, 8, 107–120. doi:10.1007/BF01173038
- Morris, L. V. (2004). Self-efficacy in academe: Connecting the belief and the reality. *Innovative Higher Education*, 28(3).
- Multon, K. D., Brown, S. D., & Lent, R. W. (1991). Relation of self-efficacy beliefs to academic outcomes: A meta-analytic investigation. *Journal of Counseling Psychology*, 38 (1), 30-38.
- Need Reid 2007 dissertation citation
- Neuville, S., Frenay, M., & Bourgeois, E. (2007). Task value, self-efficacy and goal orientations: Impact on self-regulated learning, choice and performance among university students. *Psychologica Belgica*, 47, 95-117. doi: <http://dx.doi.org/10.5334/pb-47-1-95>

- Nielsen, S. G. (2004). Strategies and self-efficacy beliefs in instrumental and vocal individual practice: A study of students in higher music education. *Psychology of Music*, 32, 418–431. doi: 10.1177/0305735604046099
- O'Hare, W. P. (1992). America's minorities: The demographics of diversity [Monograph]. *The Population Bulletin*, 47, No. 4
- Okech, A. P., & Harrington, R. (2002). The relationships among black consciousness, self-esteem, and academic self-efficacy in African American men. *Journal of Psychology*, 136(2).
- Owen, S. V., & Froman, R. D. (1988). Development of a College Academic Self-Efficacy Scale.
- Ozmentes S (2008). Self-regulated learning strategies in instrument education. *Inonu Univ. J. Faculty Educ.* 9(16):157-175.
- Pajares, F. (1996). Self-efficacy beliefs in achievement settings. *Review of Educational Research*, 66, 543-578.
- Pajares, F. (2002). *Overview of Social Cognitive Theory and of Self-Efficacy*. Atlanta: Emory University.
- Pajares, F. (2003). Self-efficacy beliefs, motivation, and achievement in writing: A review of the literature. *Reading & Writing Quarterly*, 19(2), 139-158.  
doi:10.1080/10573560308222
- Pajares, F. (2003). Self-Efficacy Beliefs, Motivation, and Achievement in Writing: A Review of the Literature. *READING AND WRITING QUARTERLY*, 2, 139.

- Pajares, F., (1996). Self-Efficacy Beliefs in Academic Settings. *Review of Educational Research*, 66(4), 543–578.
- Pajares, F., & Johnson, M. J. (1996). Self-efficacy beliefs in the writing of high school students: A path analysis. *Psychology in the Schools*, 33, 1637175.
- Pajares, F., & Kranzler, J. (1995). Self-efficacy beliefs and general mental ability in mathematical problem-solving. *Contemporary Educational Psychology*, 20, 426-443.
- Pajares, F., & Miller, M. D. (1994). The role of self-efficacy and self-concept beliefs in mathematical problem-solving: A path analysis. *Journal of Educational Psychology*, 86, 193- 203.
- Pajares, F., & Valiante, G. (1999). Grade level and gender differences in the writing self-beliefs of middle school students. *Contemporary Educational Psychology*, 24, 390–405.
- Pastorelli, C., Caprara, G. V., Barbaranelli, C., Rola, J., Rosza, S., & Bandura, A. (2001). The structure of children’s perceived self-efficacy: A cross-national study. *European Journal of Psychological Assessment*, 17, 87–97.
- Perkins K., Wiley S. (2014) Minorities. In: Teo T. (eds) *Encyclopedia of Critical Psychology*. Springer, New York, NY. [https://doi.org/10.1007/978-1-4614-5583-7\\_188](https://doi.org/10.1007/978-1-4614-5583-7_188)
- Phinney, J. S., & Haas, K. (2003). The process of coping among ethnic minority firstgeneration college freshmen: A narrative approach. *Journal of Social Psychology*, 143(6).
- Pietsch, J., Walker, R., & Chapman, E. (2003). The relationship among self-concept, self-efficacy, and performance in mathematics during secondary school. *Journal of Educational Psychology*, 95 (3), 589-603.

- Pintrich, P. R. (1988). A process-oriented view of student motivation and cognition. In J. S. Stark & L. Mets (Eds.), *Improving teaching and learning through research. New directions for institutional research*, 57 (pp. 55-70). San Francisco: Jossey-Bass
- Pintrich, P. R. (1989). The dynamic interplay of student motivation and cognition in the college classroom. In C. Ames & M. Maehr (Eds.), *Advances in motivation and achievement: Vol. 6. Motivation enhancing environments* (pp. 117-160). Greenwich, CT: JAI Press
- Pintrich, P. R., & De Groot, V. (1990). Motivational and self-regulated learning components of classroom academic performance. *Journal of Educational Psychology*, 82, 33–40.  
doi:10.1037/0022-0663.82.1.33
- Pintrich, P. R., & Schunk D. H. (1996). *Motivation in education: Theory, research, and applications*. Englewood Cliffs, NJ: Merrill/Prentice Hall.
- Reid, K.W. (2013). Understanding the Relationships among Racial Identity, Self-Efficacy, Institutional Integration and Academic Achievement of Black Males Attending Research Universities. *The Journal of Negro Education*, 82(1), 75–93. <https://doi-org.ezproxy.lib.usf.edu/10.7709/jnegroeducation.82.1.0075>
- Richardson, M., Bond, R., & Abraham, C. (2012). Psychological correlates of university students' academic performance: A systematic review and meta-analysis. *Psychological Bulletin*, 138, 353-387. doi: 10.1037/a0026838
- Ritchie, L., & Williamon, A. (2010). Measuring distinct types of musical self-efficacy. *Psychology of Music*. Advanced online publication. doi:10.1177/0305735610374895

- Ritchie, L., & Williamon, A. (2011). Primary School Children's Self-Efficacy for Music Learning. *Journal of Research in Music Education*, 59(2), 146–161.  
<https://doi.org/10.1177/0022429411405214>
- Ritchie, L., & Williamon, A. (2012). Self-Efficacy as a Predictor of Musical Performance Quality. *Psychology Of Aesthetics, Creativity & The Arts*, 6(4), 334-340.  
doi:10.1037/a0029619
- Ritchie, L., and Williamon, A. (2011). Measuring distinct types of musical self-efficacy. *Psychology of Music* 39, 328–344. doi: 10.1177/0305735610374895
- Robbins, S. B., Lauver, K., Le, H., David, D., & Langley, R. (2004). Do psychosocial and study skill factors predict college outcomes? A meta-analysis. *Psychological Bulletin*, 130, 261-288. doi: 10.1037/0033-2909.130.2.261
- Ryan, K. J., Boulton, M. J., O'Neill, S. A., and Sloboda, J. A. (2000). *Perceived Social Support and Children's Participation in Music*. Keele: Keele University.
- Salomon, G. (1984). Television is “easy”, and print is “tough”: The differential investment of mental effort in learning as a function of perceptions and attributions. *Journal of Educational Psychology*, 76, 647–658. doi:10.1037//0022-0663.76.4.647
- Schmitt, M. C. J. (1979). *Development and validation of a measure of self-esteem of musical ability* (Doctoral dissertation). Retrieved October 17, 2010, from ProQuest Dissertations & Theses: Full Text (AAT 8009164).
- Schulz, W. (2005, April). Mathematics self-efficacy and student expectations. Results from PISA (Program for International Student Assessment) 2003. Paper presented for the annual meeting of the American Educational Research Association, Montreal.

- Schunk, D. H. (1981). Modeling and attributional effects on children's achievement: A self-efficacy analysis. *Journal of Educational Psychology*, 73, 93-105.
- Schunk, D. H. (1991). Self-efficacy and academic motivation. *Educational Psychologist*, 26, 207-231.
- Schunk, D. H. (1995). Self-efficacy and education and instruction. In J. E. Maddux (Ed.), *Self-efficacy, adaptation, and adjustment: Theory, research, and applications* (pp. 281–303). New York, NY: Plenum.
- Schunk, D. H., & Hanson, A. R. (1985). Peer models: Influence on children's self-efficacy and achievement. *Journal of Educational Psychology*, 77, 313-322.
- Schunk, D. H., & Pajares, F. (2004). Self-efficacy in education revisited. Empirical and applied evidence. In D. M. McInerney & S. V. Etten (Eds.), *Big theories revisited* (pp. 115–138). Greenwich, CT: Information Age.
- Schunk, D. H., Hanson, A. R., & Cox, P. D. (1987). Peer-model attributes and children's achievement behaviors. *Journal of Educational Psychology*, 79, 54-61.
- Schunk, D.H. and Pajares, F. (2001) 'The Development of Academic Self-Efficacy, in A. Wigfield and J.S. Eccles (eds) *Development of Achievement Motivation*, pp.15–31. San Diego, CA: Academic Press
- Stevenson, H. W., Hanson, A. R., & Uttal, D. H. (1990). Beliefs and achievement: A study of Black, White, and Hispanic children. *Child Development*, 61, 508-523.
- Tabak, F., Nguyen, N., Basuray, T., & Darrow, W. (2009). Exploring the impact of personality on performance: how time-on-task moderates the mediation by self-efficacy. *Personality and Individual Differences*, 47, 823-828. <http://dx.doi.org/10.1016/j.paid.2009.06.027>

- Turner, E. A., Chandler, M., & Heffer, R. W. (2009). The influence of parenting styles, achievement motivation, and self-efficacy on academic performance in college students. *Journal of College Student Development*, 50, 337e346.  
<http://dx.doi.org/10.1353/csd.0.0073>.
- Turner, J., C., Midgley, C., Meyer D., K., Gheen, M., Anderman, E., M., Kang, Y., Patrick. H., (2002). The classroom environment and students' reports of avoidance strategies in mathematics: A multimethod study. *Journal of Educational Psychology*, 94: 88-106. doi: 10.1037/ 0022-0663.94.1.88
- Usher, E. L., & Pajares, F. (2006). Sources of academic and self-regulatory efficacy beliefs of entering middle school students. *Contemporary Educational Psychology*, 31, 125–141. doi:10.1016/j.cedpsych.2005.03.002
- Usher, E. L., & Pajares, F. (2009). Sources of self-efficacy in mathematics: A validation study. *Contemporary Educational Psychology*, 34, 89–101. doi: 10.1016/j.cedpsych.2008.09.002
- Watson K. E. (2010). The Effects of Aural Versus Notated Instructional Materials on Achievement and Self-Efficacy in Jazz Improvisation. *Journal of Research in Music Education*, 58(3), 240–259.
- Weiser, D. A., & Riggio, H. R. (2010). Family background and academic achievement: does self-efficacy mediate outcomes? *Social Psychology of Education*, 13, 367e383.  
<http://dx.doi.org/10.1007/s11218-010-9115-1>



- Wigfield, A., Eccles, J. S., & Pintrich, P. R. (1996). Development between the ages of 11 and 25. In D. C. Berliner & R. C. Calfee (Eds.), *Handbook of educational psychology* (pp. 148- 185). New York: Macmillan.
- Wigfield, A., Eccles, J., MacIver, D., Reuman, D., & Midgley, C. (1991). Transitions at early adolescence: Changes in children's domain-specific self-perceptions and general self-esteem across the transition to junior high school. *Developmental Psychology*, 27, 552-565.
- Williams, T. M., & Leonard, M. M. (1988). Graduating black undergraduates: The step beyond retention. *Journal of College Student development*, 69-75.
- Wirth, L. (1945). "The Problem of Minority Groups." *The Science of Man in the World Crisis*, edited by R. Linton: 347. In Hacker, Helen Mayer. 1951. *Women as a Minority Group*
- Yassir, S. (2006). *Adult Learners and Academic Achievement: The Roles of Self Efficacy, Self-Regulation, and Motivation*. ERIC: ED 491441.
- Zarza-Alzugaray, F. J., Casanova, O., McPherson, G. E., & Orejudo, S. (2020). Music Self-Efficacy for Performance: An Explanatory Model Based on Social Support. *Frontiers in Psychology*. <https://doi-org.ezproxy.lib.usf.edu/10.3389/fpsyg.2020.01249>
- Zarza, F. J., Orejudo, S., Casanova, O., and Mazas, B. (2016). Kenny Music Performance Anxiety Inventory: Confirmatory factor analysis of the Spanish version. *Psychol. Music* 44, 340–352. doi: 10.1177/030573561456 7932
- Zelenak M. S. (2019). Predicting Music Achievement From the Sources of Self-Efficacy: An Exploratory Study. *Bulletin of the Council for Research in Music Education*, 222, 63. <https://doi-org.ezproxy.lib.usf.edu/10.5406/bulcouresmusedu.222.0063>

- Zelenak, M. S. (2011). Self-efficacy in music performance: Measuring the sources among secondary school music students (Doctoral Dissertation). Scholar Commons.
- Zelenak, M. S. (2015). Measuring the sources of self-efficacy among secondary school music students. *Journal of Research in Music Education*, 62(4), 389–404.  
<https://doi.org/10.1177/0022429414555018>
- Zelenak, M.S., (2010). Development and Validation of the Music Performance Self-Efficacy Scale.
- Zimmerman, B. J. (1998a). Academic studying and the development of personal skill: A self-regulatory perspective. *Educational Psychologist*, 33, 73–86.  
doi:10.1080/00461520.1998.9653292
- Zimmerman, B. J. (2000). Attaining self-regulation: A social cognitive perspective. In M. Boekaerts, P. Pintrich, & M. Zeidner (Eds.), *Handbook of self-regulation* (2nd ed., pp. 13–39). San Diego, CA: Academic Press.
- Zimmerman, B. J., & Martinez-Pons, M. (1990). Student differences in self-regulated learning: Relating, grade, sex, and giftedness to self-efficacy and strategy use. *Journal of Educational Psychology*, 82, 51–59. doi:10.1037//0022-0663.82.1.51
- Zimmerman, B. J., Bandura, A., & Martinez-Pons, M. (1992). Self-motivation for academic attainment: The role of self-efficacy beliefs and personal goal-setting. *American Educational Research Journal*, 29, 663-676.
- Zimmerman, B.J. and Bandura, A. (1994) ‘Impact of Self-regulatory Influences on Writing Course Attainment’, *American Educational Research Journal* 31: 845–62.

**APPENDIX A**

**PARTICIPANT SELF-REPORT DEMOGRAPHICS FORM**

Age:

Gender (circle one): M F

Ethnicity (circle one): Hispanic Non-Hispanic

Race: (circle one)

African American or Black

Caucasian or White

Two or more races/Mixed

Current Year as Undergraduate in College/University (circle one):

1st Year

2nd Year

3rd Year

4th Year

5th Year

6th or more years

Music Major (circle one): Y N

Years in Performing Ensembles since 6th grade (circle one)

1-3 years

4-7 years

8-12 years

13+ years

Years of Private Music Instruction/Lessons Before College/University (circle one)

1-2 years

3-5 years

6-10 years

11+ years