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Mediating Effect of Academic Self-Efficacy Between Teachers' Attitudes and Achievement of Low-Income High School Students

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2018

Abstract

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Nickole M. Cottrill

MS, Walden University, 2015

BS, Walden University, 2013

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Social Psychology

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Abstract

Researchers have found that low-income students have greatly suffered academically, yet there have been no advancements causing the academic achievement gap to close for any length of time. Using Bandura's social cognitive, self-efficacy, and academic self-efficacy theories as the foundation, this study explored the mediating effect of academic self-efficacy in the relationship between perceived teacher attitudes and perceived academic achievement in low-income high school students. Data were collected from 145 low-income high school students via an online survey geared towards their parents to ensure full parental consent. The survey included demographic questions, a perceived academic achievement question, the Classroom Teacher-Student Relationship subscale, and the Academic Self-Efficacy subscale. Multiple regression analysis revealed significant findings in that academic self-efficacy mediated the relationship between perceived teacher's attitudes and perceived academic achievement. However, due to cross-over suppression, gender differences were found to be a confounding variable. Further, it was found that girls were predicted to have higher perceived academic achievements than boys. This research is significant as the implications for social change include using the results as the foundation for future programs to improve teachers' attitudes towards low-income students to increase academic self-efficacy in low-income high school students. If these improvements are made, low-income high school students' academic achievement levels may also increase. This, in turn, could cause the academic achievement gap to close between low and high-income high school students.

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Dedication

First and foremost, I would like to dedicate this dissertation to my late dad, Timothy W. Cottrill. You are my dad and my best friend, and I miss you more than words can ever describe. I hope that I have made you proud in all that I have done. I wish you were here to celebrate this moment with me. Until we meet again . . .

I would like to also dedicate this dissertation to my mother, Mary C. Wise. Thank you so much for always being there to support me throughout this long process. I could not have made it without your support and love. I appreciate the help and support you have given me throughout my life more than you will ever understand.

I also want to dedicate this dissertation to my loving partner, David N. Davison. You have been there for me more than anyone else has been, and I am forever grateful for that. Without you to give me the time I needed to work on my research, I could have never completed my dissertation or finished my degree. I will be forever indebted to you for all that you have done to make this possible.

I want to say thank my children, Krysta and Jayden Davison as well. You both had to sacrifice your time with me throughout this process due to the amount of work that I had to put into completing this, and I am very thankful that you both understood and supported me. I love all five of you very much, and I once again thank you all for your contributions in making this dissertation possible.

I also must include my brother, Timothy Cottrill, for your help and support from the very beginning of this journey. That first time I was given an Honors award for my 4.0 GPA, you not only understood the significance of it, but you showed me the

importance of it in telling me how proud of me you were (even if you won't admit it now). That gave me the motivation I needed to continue to put those awards up on my wall! I filled the wall, and although you might not know it, your words were behind each one of them. Of course, forcing you to call me Dr. Cottrill played a large role as well! I love you and thank you for your support.

Finally, I must give a very special thank you to two more wonderful people who helped me in this process. First, thank you, Jessie Butler, for always being there to listen, support, and guide me, especially in the beginning. All our talks over the years led me to get into the field of psychology and taking my degree to where it is at now. I thank you from the bottom of my heart for all that you have done. Second, thank you, Jasmyn Peters, for being the amazing, intelligent, and beautiful young woman that you are. Without your inspiration and your drive to do amazing things in life, I would have never taken my research in this direction, and for that, I thank you. Please continue to always follow your dreams! I hope that you achieve every goal you set for yourself!

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First, I want to acknowledge and thank Dr. Arcella Trimble for all the help and support that you have provided me throughout this journey. I have learned so much more than just the dissertation process from you. Your guidance and understanding of everything going on in my life when writing chapter 2 means more to me than you will ever know. You stuck with me and encouraged me to continue even when my family life almost caused me to drop out. You let me take care of what I needed to and just waited for me to get back on track because you knew I would. Had you got frustrated or changed your mind about working with me, I may have never finished my degree. I thank you from the bottom of my heart for making the decision to be my chair at the residency!

I also want to acknowledge and thank Dr. Tom Diebold for your help and support in this process as well. You were a tremendous help and support in developing my study and in helping me to analyze and understand my research data. Without you, I would have struggled so much in analyzing the data and reporting my research results. I greatly appreciate all the ways you have helped me throughout my dissertation process! Someday I wish to be as intelligent as you in the world of statistics!

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Finally, I want to acknowledge Dr. Amy Sickel for your help during the early stages of my dissertation. Your help and guidance are what ultimately led to me finding and narrowing my research topic, and I thank you for that.

I am honored to have met all of you.

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Chapter 1: Introduction to the Study

Introduction

In 2015, the official poverty rate in the United States was 13.5%, which translates to roughly 43.1 million people living in poverty (U.S. Census Bureau, 2016). Additionally, the rates of poverty broken down by age group include children under age 18 (19.7%), individuals aged 18-64 (12.4%), and individuals 65 and older (8.8%; U.S. Census Bureau, 2016). With a nearly 20% poverty rate among children aged 18 or younger, the National Center for Education Statistics (NCES; 2016) highlighted the correlation among parent's income and educational history to the academic achievement of the children in the household. The NCES explained that household poverty greatly impacts a student's academic achievements and leads to a lower rate of high school completion. Therefore, low-income students whose family lives at or below the poverty line typically have lower academic achievements compared to students who are considered to be at a high-income status (Strauss, 2012). What this ultimately is describing is the academic achievement gap in the United States that occurs between low and high-income students (NCES, 2016; Reardon, 2012; Strauss, 2012).

This achievement gap places unfair differences in academic achievement between low and high-income students, which causes low-income students to fall significantly behind their high-income counterparts in various areas of education (Reardon, 2012). In 1966, the Coleman Report specifically highlighted the relationship between low and high-income students and their academic achievements (Reardon, 2012). Since then, the gap has continued to increase, putting more and more low-income students significantly

behind high-income students. Reardon (2012) explained that there are four main explanations for the continued widening of the achievement gap between these two populations. The four explanations include rising income inequality, differential investments in student's cognitive development, changes in income and family and social resources, and increased community segregation based on income status (Reardon, 2012). However, this research focused on yet another possible explanation for this achievement gap.

This alternate explanation included the impact teacher attitudes have on a low-income student's academic self-efficacy and academic achievement. According to Norman (2016), numerous research studies have demonstrated that teachers typically hold negative attitudes towards their low-income students while holding more positive attitudes towards their high-income students. Although a teacher's negative attitudes can impact many areas of the student's education, Sharma and Nasa (2016) explained that it can have a large impact on their self-perceptions, which impacts their academic achievements. Therefore, this research study looked at how low-income high-school students perceived their teacher's attitudes and how this impacted their academic self-efficacy and achievement.

This first chapter provides an overview of the research study. It starts with background information on the achievement gap in the United States, the impact teacher's attitudes have on academic achievement, and their attitudes towards low-income students. It continues with a detailed description of both self-efficacy and academic self-efficacy, the impact teachers have on student academic self-efficacy, and

how academic self-efficacy plays a role in academic achievement. Further, I discuss the problem statement, the specific purpose of the study, and the research question and hypotheses. Next, I explain the theoretical framework, the nature of the study, and the definitions that guided this study and note the assumptions, delimitations, and limitations. Finally, I discuss the significance of this study and how it may contribute to the field, along with providing a summary to highlight the main areas that were discussed throughout this chapter.

Background

The Achievement Gap in the United States

Langham (2009) and the National Education Association (2015) explained that the achievement gap refers to the differences in academic scores or performance when one group of students is compared to another group (e.g., low versus high-income, Black versus White students). According to Huang (2015) and Reardon (2013), over the last 50 years the United States has seen a 40% increase in the academic achievement gap between low and high-income students, in part due to the lack of financial resources in low-income families. This is problematic because low academic success (or academic failure) can affect numerous areas of the student's life, including aspects of their life after they are finished with school (Langham, 2009; National Education Association, 2015; Reardon, 2013). For example, crime rates are higher among those who did not finish high school; educated people tend to pay more into taxes rather than being tax consumers; more jobs require a high school diploma, which makes it difficult for an uneducated person to find a job; the economy suffers from a lack of growth; and health care costs

increase due to poor health, less preventative care, and more emergency care that uneducated people receive (Langham, 2009; National Education Association, 2015).

Although the effects of the achievement gap are demonstrated in numerous areas of an individual's life, researchers note various reasons as to why the achievement gap occurs between low and high-income students. For example, Huang (2015) noted that the achievement gap among these two groups is due to a basic lack of financial resources in low-income families to provide quality education for their children. On the other hand, Jensen (2013), Langham (2009), Morrissey, Hutchison, and Winsler (2014), and Reardon (2013) explained that the gap stems from a lack of nutrition and health care, smaller vocabularies, laziness, negative mindsets, life stress, and negative relationships with those around them. However, recent research has taken a different perspective noting that teacher attitudes towards students play a role in student academic achievement (Youn, 2016). Thus, the achievement gap could be due to the attitudes teachers hold towards their students and its impact on achievement; however, academic self-efficacy may also be a mediating variable in this relationship as well.

Teacher's attitudes in the classroom and the attitudes they hold towards their students has always been a vital part of a positive teacher-student relationship (Gallagher, 2016). In fact, Gallagher (2016) explained that positive teacher-student relationships increase middle and high school students' achievement and social outcomes. However, negative teacher-student relationships can lead to a decrease in achievement and social outcomes, and this is particularity true in low-income middle and high school students (Gallagher, 2016).

When it comes to the differences in teacher attitudes towards specific groups of students, previous research has demonstrated that teachers typically hold more negative attitudes towards their low-income students than they do their high-income students. This is often due to stereotypical attitudes and beliefs they have about low-income students and their families, which cause teachers to have lower standards and expectations for these students (Amatea, Cholewa, & Mixon, 2012; Helm, 2007; Norman, 2016). Norman (2016) explained that these negative attitudes can be detrimental to a student's success because the teachers hold low-income students to lower standards. Halvorsen, Lee, and Andrade (2008) found that teachers working at low-income or urban schools tend to "write off" their low-income students because the teachers do not feel personally responsible for the students' learning or achievement. This lack of personal responsibility directly impacted the student's reading and writing levels (Halvorsen et al., 2008). However, research on teachers' attitudes towards high-income students is typically positive, which in turn can lead to higher academic achievement compared to low-income students (Amatea et al., 2012; Gallagher, 2016; Norman, 2016).

In addition to teacher attitudes, another variable that has not been explored is self-efficacy. According to Bandura and Cervone (1983), self-efficacy plays a major role in an individual's self-motivation. In fact, self-efficacy has a central role in determining the choices people make, how much effort they will utilize for each choice they made, and how long they will continue to work at or through the choice they have made (Bandura & Cervone, 1983). Further, the stronger or more positive an individual's self-efficacy is, the more they will persevere to accomplish the task at hand (Bandura & Adams, 1977). On

the other hand, if an individual's self-efficacy level is low or negative, the person is likely to avoid carrying out certain behaviors and activities, or they may have high anxiety when completing these tasks, which causes them to quit prematurely (Bandura & Adams, 1977).

Self-efficacy has such a large role in an individual's life and self-motivations because of the sources of information from which persons get their expectations of personal efficacy (Bandura & Adams, 1977). That is, according to Bandura and Adams (1977), there are four main types of information that individuals base their self-efficacy on in any given situation. This information determines how and what an individual does in the situations they are presented with. The four types of information include prior performance accomplishments, observing others succeeding, physiological arousal, and verbal persuasion (Bandura & Adams, 1977). If this information stems from positive sources or experiences, the individual is likely to have high self-efficacy in related situations; however, if these sources or experiences are negative, it can cause the individual to have low self-efficacy (Bandura & Adams, 1977).

Academic self-efficacy is an application of self-efficacy in a specific situation (Bandura, Barbaranelli, Caprara, & Pastorelli, 1996). It refers to the conviction individuals have regarding their ability to successfully complete or achieve specific academic goals or tasks (Bandura et al., 1996). That is, it is the beliefs they have about their abilities to function on the level that is necessary to achieve specific academic goals and tasks that is important (Bandura, 1997). Research has shown that when students believe that they can control their learning and academic goals and outcomes, they are

more likely to succeed (Bandura et al., 1996). This is due to their perceived academic self-efficacy, which creates positive levels of academic self-efficacy that allows them to persevere through the difficult academic challenges (Bandura et al., 1996). On the other hand, if a student has low academic self-efficacy, they are less likely to strive to reach academic goals because they feel that they have little incentive to do so (Bandura et al., 1996). There are numerous factors that can contribute to a student's level of academic self-efficacy; however, one direct link has been largely overlooked in past research. This is the link between teacher attitudes towards their students and the impact it has on the students' academic self-efficacy.

Although there is a wealth of information on teacher self-efficacy, the current literature is lacking research about teacher attitudes towards low-income students and how this directly impacts the students' academic self-efficacy. However, there is research that discusses the importance of teacher attitudes on another aspect of self-perception, which is self-esteem (Helm, 2007). Helm (2007) explained that the positive attitudes teachers have towards students allow them to develop higher self-esteem than other students who are receiving negative attitudes from their teachers. Further, Canfield (1990) noted that positive teacher attitudes are key to successfully raising student self-esteem because the students will feel better about themselves in the classroom environment, but if negative attitudes are projected on the students, they are likely to have low self-esteem (Helm, 2007). Erkman, Caner, Sart, Börkan, and Şahan (2010) found that student perceptions of their teacher's acceptance significantly correlated with the student's attitude towards school, a higher self-concept in the students, and higher

academic achievements in male but not female students. Although these older studies do not look at teacher attitudes and academic self-efficacy specifically, they do demonstrate the importance of teacher attitudes and acceptance in a student's self-perception. Additionally, these studies also demonstrate how important student self-concepts are in their academic achievements.

Even though the literature is lacking, one study was found that discussed the important role teachers play in helping their students develop positive academic self-efficacy. Sharma and Nasa (2016) explained that teachers can help improve their students' academic self-efficacy and achievement levels by applying various learning strategies, which include goal setting, modeling, strategy training, and feedback. Each of these learning strategies is probably beneficial to a student's academic success, and it may contribute to increases in their academic self-efficacy levels. However, Sharma and Nasa (2016) and other previous studies fail to explain the importance of teacher attitudes and the direct impact they may have on their students' academic self-efficacy levels.

Impact of Student Academic Self-Efficacy on Achievement

Finally, academic self-efficacy has been shown to have a direct effect on a student's achievement and performance (Honicke & Broadbent, 2016; Khan, 2013; Sharma & Nasa, 2014). In fact, academic self-efficacy is receiving more recognition as a contributing factor to academic achievement due to it essentially describing the student's confidence in their academic performances (Sharma & Nasa, 2014). That is, it heavily influences the student's choices in their educational settings based on whether they believe they can attain the academic task at the level they are expected to (Sharma &

Nasa, 2014). Research has shown that it is significantly intertwined with a student's cognitive engagement, academic commitment, learning, persistence, strategy use, analytical thinking, and the ability to cope with negative emotions in their academic settings (Sharma & Nasa, 2014).

In a literature review that covered the last twelve years of research on academic self-efficacy and academic achievement, Honicke and Broadbent (2016) found that there is a correlation between the two factors. Additionally, Khan (2013) found a significant relationship between academic self-efficacy and GPA; however, the research that was gathered for both Khan's and Honicke and Broadbent's studies used college students rather than high school students**.** In fact, most of the previous research has focused on elementary, middle school, and college students rather than high school students, which Gallagher (2016) noted is problematic because high school students are embarking on a significant journey in their lives. In other words, high school students are at a very vital time in their lives because they are going through their final years of high school, planning for their future in college or the workplace, and developing as individuals who will be making the transition to adulthood. Thus, they need support and a positive relationship with their teachers to successfully make their transition into adulthood (Gallagher, 2016). Therefore, the focus of this study was to determine the mediating effect of academic self-efficacy on the relationship between perceived teacher attitudes and perceived academic achievement in low-income high school students.

Problem Statement

The social problem is the achievement gap between low and high-income students is widening, which causes significant differences in their academic achievements and success once they leave school (National Education Association, 2015; Reardon, 2012). Previous research has looked at student factors such as self-esteem, teacher self-efficacy, and academic achievements of low-income students (Amatea et al., 2012; Canfield, 1990; Gallagher, 2016; Helm, 2007; Norman, 2016). Studies have shown that teachers are influential in students' academic success and personal perception of themselves, particularly in the areas of self-esteem and self-efficacy (Amatea et al., 2012; Canfield, 1990; Gallagher, 2016; Helm, 2007; Norman, 2016). However, research has not directly examined the mediating effect of academic self-efficacy between perceived teacher attitudes and perceived academic achievement. Of the studies that have looked at attitudes on other areas of self-perception and academic achievement, elementary, middle school, and college students were participants. However, research suggests that low-income high school students may benefit from this research due to the transitions that occur during and after their high school years (Gallagher, 2016).

The literature that I reviewed and social cognitive theory (reviewed later) support the expectation that perceived teachers' attitude (independent variable) is related to academic achievement (dependent variable) and to constructs associated with academic self-efficacy. The literature that I reviewed and self-efficacy theory, particularly academic self-efficacy, supports the expectation that perceived teachers' attitudes can

influence academic self-efficacy (mediator variable). What is yet to be empirically determined is the magnitude of the mediating effect.

Purpose of the Study

The primary purpose of this quantitative study was to examine the theoretically and empirically grounded mediation model of low-income high school students depicted in Figure 1. Analysis of the mediating model determined the proportion of direct effect of perceived teacher attitudes on perceived academic achievement (path c) as well as the indirect effect (the mediating effect) through academic self-efficacy (path ab). Secondarily, the mediation analysis indexed the simple relationships between each variable.

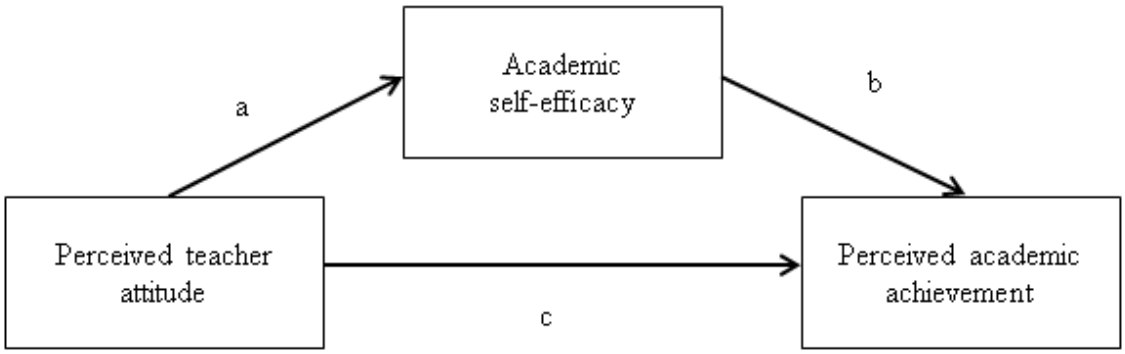

Figure 1. Model of the mediating effect of academic self-efficacy on the relationship between perceived teacher attitude and perceived academic achievement.

Research Questions and Hypotheses

RQ: To what extent does academic self-efficacy mediate the relationship between perceived teacher attitudes towards low-income students and academic achievement?

H_0: The indirect effect of perceived teacher attitude on academic achievement through academic self-efficacy is not statistically significant.

H_a: The indirect effect of perceived teacher attitude on academic achievement through academic self-efficacy is statistically significant.

Theoretical Framework

This study was based on social cognitive theory (Bandura, 1977a, 1986), self-efficacy (Bandura, 1977a, 1986), and academic self-efficacy (Bandura, 1977a, 1986, 1997) theories.

Social Cognitive Theory

The initial foundation for this study was Bandura's (1977a, 1986) social cognitive theory. Social cognitive theory describes human behavior as a continuous reciprocal interaction between behavioral, cognitive, and environmental influences (Bandura, 1986, 1989). In other words, this theory explains that individuals learn through observing others' attitudes, behaviors, and the outcomes they have due to these behaviors. Bandura (1986) noted that when an individual observes another individual's behavior and the consequences of that behavior, they will remember the information to guide or influence their own future behaviors (Bandura, 1977a).

Self-Efficacy Theory

Evolving from social cognitive theory, self-efficacy theory, another component of this study, refers to the beliefs an individual has about their ability to complete or succeed in specific situations (Bandura, 1977a, 1986). That is, self-efficacy refers to the personal beliefs an individual has regarding the likelihood of being successful at completing a

specific task or goal (Bandura, 1977a, 1986). An individual's level of self-efficacy has the potential to influence numerous areas of their lives due to it determining how they think, feel, motivate themselves, and behave (Bandura, 1977a, 1986). The influence an individual's level of self-efficacy can have on their lives can be both positive and negative because it determines the effort the individual puts into accomplishing a task or goal (Bandura, 1986).

Academic Self-Efficacy

As previously noted, academic self-efficacy, which is a situation-specific application of self-efficacy theory, refers to the conviction an individual has regarding their ability to successfully complete or achieve specific academic goals or tasks (Bandura, 1977a, 1986, 1997). Academic self-efficacy was also used as a theoretical basis of this study to demonstrate the interworking behind why teacher attitudes influence student academic achievement. In other words, this research was based on academic self-efficacy theory in that it guides the belief that teacher attitudes (whether positive or negative) affect student academic self-efficacy (increase or decrease) because both environmental and observations of others influence a person's beliefs about their own capabilities; thus, in turn, this also affects student academic achievement (Bandura, 1997). Further, Bandura (1977a, 1986) noted that achievement is dependent on an individual's behaviors, personal factors, and environmental situations, which also guided the direction of this research when exploring if student academic self-efficacy (determined by teacher attitudes) played a role in the student's overall achievements.

Nature of the Study

According to Creswell (2014), a researcher should select the research approach based on the research problem and questions. Further, a quantitative research design is used when the researcher wants to use theory to examine relationships that exist among variables (Creswell, 2014). These variables and the relationship among them are measured using instruments such as surveys that are then quantified and analyzed using statistics (Creswell, 2014). In addition, a quantitative nonexperimental design is when researchers do not manipulate the variables in the study; instead, they study them as they exist (Creswell, 2014). This research used a quantitative nonexperimental survey research design because I used theory to examine the relationship between variables that were not manipulated during the research. Additionally, I utilized surveys to collect the data regarding all three of the variables. Further, MacKinnon (2011) notes that mediating variables allow the researcher to understand the ways in which variables are related. To assess whether there is an important mediating variable, Hayes and Preacher (2014) note it is important to use a statistical mediation analysis. Consequently, in this study I utilized a multiple regression analysis to determine if academic self-efficacy was a mediating variable for perceived teacher attitudes and academic achievement.

For this quantitative nonexperimental survey research study, predetermined surveys were administered to low-income high school students to measure the way they perceived their teacher's attitudes towards them, their academic self-efficacy level, and their perceived academic achievement. The instruments that I used for this survey research included the Panorama Student Survey, a subscale of the Self-Efficacy

Questionnaire for Children (SEQ-C; Academic Self-Efficacy), and a single question using a Likert-type scale to determine the students' perceived academic achievements. To measure the student's perception of their teacher's attitudes, I used the Panorama Student Survey, which was created by Panorama Education and the Harvard Graduate School of Education to measure perceptions of teaching and learning (Panorama Education, 2016). The specific subscale that was used is the Classroom Teacher-Student Relationships survey, which determines the student's perception of how strong the teacher-student connection is both in and out of the classroom (Panorama Education, 2016). When measuring student academic self-efficacy, a subscale of the SEQ-C was used. This scale addressed student academic self-efficacy with a series of questions relating to themselves and their academic abilities (Strive Together, 2015). Finally, the students' perceived academic achievement was measured using a Likert-type scale that asks them what they felt their overall academic achievement level is. This question was used because this research focused on the student's perceptions rather than actual grades or GPA. That is, student perception was preferred because this research aimed to see how the students believed they did academically based on how they feel about their teacher's attitudes towards them. Thus, if academic self-efficacy is a mediator in the relationship between perceived teachers' attitudes and academic achievement, perceived achievement is important in demonstrating this relationship.

Definitions

These terms are defined as they are used throughout this research study.

Academic achievement: The student's self-perception regarding their education and overall academic abilities (McCoach & Siegle, 2003).

Academic self-efficacy: A situation-specific application of self-efficacy theory regarding the conviction a student has about their ability to successfully complete or achieve specific academic goals (Bandura, 1977a, 1986, 1997).

Low-income high school students: Students who are in grades 9-12 and have a low-income status due to their parent's/caregiver's income being at or below the poverty line (Amatea et al., 2012).

Perceived teacher attitudes: How low-income high school students feel about their teacher's attitudes towards them. This includes the students' perception of how strong they believe the relationship is between them and their teacher in and out of the classroom (Panorama Education, 2016).

Self-efficacy: A person's beliefs regarding the likelihood of being successful in completing specific tasks or goals (Bandura, 1977a, 1986).

Social cognitive theory: A theory noting that people learn through observing others' attitudes, behaviors, and the outcomes that result from these behaviors (Bandura, 1977a, 1986, 1989). This information influences or guides the persons own future behaviors (Bandura, 1977a).

Assumptions

This research was based on three assumptions. The first, based on the inclusion criteria for participants, I assumed that all the participants were low-income high school students. The second assumption is that all the participants were honest and truthful when

selecting their answers on the surveys regarding perceived teacher attitudes, academic self-efficacy, and academic achievement. Finally, the third assumption was that all the participants are willingly and voluntarily taking part in the study due to the consent and student assent forms given to the parents/caregivers and the student. These assumptions had to be made to conduct the research; otherwise, it could not have been completed.

Scope and Delimitations

All the participants were required to be low-income high school students. The research was restricted to only these participants because during the literature review it was determined that high-income students typically have a better relationship with their teachers, higher self-efficacy, and higher academic achievement scores than low-income students (Canfield, 1990; Gallagher, 2016; Helm, 2007; Norman, 2016). Thus, the focus of this research was to determine these variables in low-income students. Furthermore, high school students were used instead of elementary, middle, or college students because the past research has primarily focused on elementary, middle, and college students rather than high school students when it comes to teacher's attitudes, self-esteem, and academic achievement (Gallagher, 2016). However, there is limited research using the scope of this research study with high school students (Gallagher, 2016).

Also, this research did not restrict the ages of the high school students. Instead, all low-income high school students in grades 9-12, regardless of their age, were asked to participate because the fact they are in high school is more important than their age during these years. Finally, this research did not use teachers as participants because the bulk of the past literature focuses on teacher's attitudes towards low-income students

from the teacher's perspective (Amatea et al., 2012; Halvorsen et al., 2008). However, this study looked at teacher attitudes towards low-income students from the student's perspective in that the survey administered asked questions regarding how they perceived their teacher's attitude towards them.

Limitations

This study could have been limited by several factors throughout the research process. First, due to the data collection process being self-reported survey questions, there was a possibility that the participants did not answer all the questions truthfully. This could be especially true if there is a lack of understanding about specific questions on the surveys. Further, participant bias might have occurred if the participants realized or understood the purpose of the study, which could have caused them to provide answers that they believed I was looking for instead of being honest (Simundic, 2013). In hopes of preventing these limitations, the participants were instructed to answer the questions as honestly and accurately as possible. It was also explained that every answer is relevant to the research so being truthful was vital. Finally, to address any misunderstandings that could occur, the participants were told to ask for help if there was any question that they do not fully understand. Second, a full understanding of this topic is not likely to occur from this research because such a small sample size was used. However, there is statistical data to represent the participants and results that came from this study.

Significance

This study addressed the noted literature gap as it addressed the direct relationships between perceived teacher attitudes, student academic self-efficacy, and

perceived student academic achievement. Past studies have focused on either teacher attitudes towards low-income students, self-efficacy, or academic achievement separately instead of examining the relationship between all three variables (Amatea et al., 2012; Gallagher, 2016; Halvorsen et al., 2008; Honicke & Broadbent, 2016; Khan, 2013; Miller, 2008; Norman, 2016; Sharma & Nasa, 2014; Youn, 2016). Furthermore, as noted previously, past research has mostly focused on elementary, middle school, or college students, whereas the focus of this research was on high school students who are at a vital time in their lives as they are beginning their journey of transitioning into adults (Gallagher, 2016). The results of this study did provide much-needed insight as to how perceived teacher attitudes impacted low-income high school students' academic self-efficacy and perceived achievement. A significant connection was found in this study; thus, the insights gained from this research could aid future researchers in creating programs to improve student's self-efficacy, in turn, their academic achievement. In developing these programs, low-income high school students could have more academic opportunities, which should allow the students to be more confident in their academic endeavors (Youn, 2016).

Summary

The achievement gap in the United States has continued to grow over the last several decades. However, what was believed to be a simple disadvantage between low and high-income students, based on their income status alone, may not be the foundation of this gap at all. That is, the problem may go deeper than this and show that a teacher's attitude towards their low-income students may have a direct impact on their academic

achievement by lowering the students' academic self-efficacy levels. The past research demonstrates a generally negative attitude from teachers towards their low-income students, which is why conducting this study was vital to determining if this connection between teacher attitudes, academic self-efficacy, and academic achievement is valid. This study could create a path for academic improvement in low-income high school students, which could change the achievement gap between low and high-income students.

In this chapter, I provided an overview of the research study by giving details regarding the background of this topic. I also included the problem statement, the specific purpose of the study, and the research question and hypothesis that I explored. This chapter also explained the theoretical framework, the nature of the study, and the definitions that guided this study. Included were also the assumptions, delimitations, and limitations of the study. However, many of the limitations were addressed prior to conducting the research, which should have reduced or removed the limitations altogether. Finally, I discussed the significance of this study and how it may contribute to the field of both education and psychology.

In Chapter 2, I will provide an in-depth discussion of the available literature on the achievement gap, the impact of teacher attitudes on academic achievement and towards their low-income students, self-efficacy and academic self-efficacy, teacher attitudes on academic self-efficacy, and the impact of academic self-efficacy on academic achievement. Also, the literature review search strategies and the theoretical foundation will be discussed. I will also briefly discuss the literature related to similar variables due

to the lack of research on the combination of variables discussed in this research study. Finally, Chapter 2 will end with a conclusion based on all the available literature.

Chapter 2: Literature Review

Introduction

The achievement gap in the United States continues to widen between low and high-income students (National Education Association, 2015). This is causing various problems for low-income students because they are not receiving the education, training, and support needed to help them succeed in reaching their full potential both during and after school (National Education Association, 2015). The achievement gap can lead to problems greater than poor academic performance, low GPA, and high school dropout rates (Langham, 2009; National Education Association, 2015). For instance, the achievement gap has been shown to have an impact on the student's life after school such as finding a job, taking care of their families, and their overall health, and this is despite whether they graduated high school or not (Langham, 2009; National Education Association, 2015). In other words, whether low-income students graduate high school or not, the rest of their lives are affected by the achievement gap that occurs during their school years.

Although it is clear to many that there is an achievement gap among low and high-income students, there are numerous opinions as to why this gap is occurring. Huang (2015) explained that the achievement gap is due to decreased funding in low-income schools. However, Jensen (2013), Langham (2009), Morrissey et al. (2014), and Reardon (2013) explained that the achievement gap occurs due to numerous variables including laziness, negative mindsets, lack of nutrition and health care, life stress, smaller vocabularies, and negative relationships of low-income students' lives. Another major

perspective that has been appearing in recent research is that teacher attitudes may impact the achievement gap between low and high-income students (Youn, 2016). Specifically, it is speculated that teacher's attitudes may impact the achievement gap between low and high-income students' due to the influence their negative attitudes have on student achievement.

Previous research has shown that teacher attitudes impact the teacher-student relationship and a student's academic achievement (Amatea et al., 2012; Canfield, 1990; Gallagher, 2016; Helm, 2007; Norman, 2016). In fact, research has demonstrated teacher's negative attitudes towards students can negatively impact the students' achievement and that low-income students receive the most negative attitudes when compared to high-income students (Amatea et al., 2012; Canfield, 1990; Gallagher, 2016; Halvorsen et al., 2008; Helm, 2007; Norman, 2016). However, this research study presents another perspective for the achievement gap, which is that academic self-efficacy may also mediate the relationship between teacher attitudes and academic achievement. Self-efficacy is the belief an individual has about their overall ability to complete a task in any given situation (Bandura, 1977a, 1986). Academic self-efficacy is the specific application of self-efficacy in an educational setting. Past studies have focused on teacher self-efficacy; however, the current literature is greatly lacking when it comes to academic self-efficacy and how teacher attitudes impact the students' academic self-efficacy (Bressoux & Pansu, 2016; Karwowski, Gralewski, & Szumski, 2015). There is even less research on how teacher attitudes impact low-income high school students' academic self-efficacy and academic achievement as most studies (Boonen, Van Damme,

& Onghena, 2014; Miller, 2008; van Uden, Ritzen, & Pieters, 2014; Youn, 2016) were conducted with younger students or those enrolled in college.

The connection between teacher attitudes and how it impacts a student's academic self-efficacy and academic achievement is valid and important because research has shown that when a teacher accepts and supports their students, the student typically shows more interest in their education, has higher self-concepts, and has higher academic achievements (Erkman et al., 2010). Therefore, the purpose of this quantitative nonexperimental research study was to determine how perceived teacher attitudes impacted low-income high school students' academic self-efficacy and academic achievement. Future researchers can use this information to create and develop programs to help low-income high school students improve their academic self-efficacy and overall academic achievements. Thus, low-income high school students could be more confident and successful in their academic settings.

I begin this chapter by detailing the literature review search strategies and explaining the theoretical foundation, which includes social cognitive, self-efficacy, and academic self-efficacy theories. Following these sections, I discuss a review of the past literature on each of the variables that are relevant to this study, which includes teacher attitudes, academic self-efficacy, and academic achievement. Finally, this chapter will end with a detailed summary and conclusion section of the discussed literature.

Literature Search Strategy

The articles that I used for this literature review were peer-reviewed, scholarly, and published within the last 5 years. However, I used seminal articles beyond the last 5

years throughout the theoretical foundation. Databases that I used included PsychINFO, PsychARTICLES, SAGE Journals, ERIC, Education Source, Education Search Complete, Academic Search Complete, ScienceDirect, Expanded Academic ASAP, and Google Scholar. The key terms used for these searches included *self-efficacy, academic self-efficacy, teacher attitudes, teacher attitudes and low-income students, achievement gap, social cognitive theory, teacher attitudes and student achievement, teacher perceptions and students, teacher and academic self-efficacy, academic self-efficacy and students, self-efficacy and students, self-esteem and students, self-perceptions and students, academic self-efficacy* and *achievement.*

Theoretical Foundation

Social Cognitive Theory

The theoretical framework for this study was founded on social cognitive, self-efficacy, and academic self-efficacy theories created by Bandura. Bandura (1986, 1989) noted that human behavior or learning stems from multiple sources including environmental, behavioral, and cognitive influences. These influences work with one another in a continuous reciprocal manner to allow individuals to learn by observing others' behaviors, attitudes, and the outcomes that stem from these behaviors (Bandura, 1986, 1989). In other words, when an individual observes another individual's behavior and the consequences of that behavior, the individual remembers these actions in order to apply them to later situations in their own lives (Bandura, 1977a). This theory is best demonstrated in the BoBo Doll experiment where Bandura (1963) used two models (male and female), a video, and a cartoon to depict aggression towards a doll without any

negative consequences. In turn, the children in the experiment also demonstrated aggressive behaviors towards the doll, thus demonstrating learned aggression by observing others' behaviors and the consequences of those behaviors (Bandura, 1963).

Self-Efficacy Theory

Bandura (1977a, 1986) then evolved from social cognitive theory by focusing on the beliefs an individual has regarding their own abilities to succeed or complete tasks in various situations, which is called self-efficacy theory. That is, this theory refers to the beliefs or expectancies an individual has regarding their own ability to succeed or complete tasks and goals throughout their life (Bandura, 1977a, 1986). Further, Bandura (1977b) details that there are two types of expectancies that influence an individual's behavior and self-efficacy levels. These include outcome and efficacy expectancies. Outcome expectancy refers to the individual's thoughts and predictions that specific behaviors will lead to specific outcomes (Bandura, 1977b). However, efficacy expectancy refers to the individual's belief that they can successfully act out the desired behavior (Bandura, 1977b).

Thus, self-efficacy levels can influence many areas of an individual's life because they essentially impact how they think, feel, motivate themselves, and behave (Bandura, 1977a, 1986). This impact can be either positive or negative as it determines the amount of motivation and effort an individual exerts into a given task or goal (Bandura, 1986). Bandura (1977b) explained that individuals develop their level of self-efficacy based on four sources of information that include performance accomplishments, observing others succeeding, physiological arousal, and verbal persuasion. If there is positive information

stemming from these areas, an individual is likely to have higher self-efficacy; however, if there is negative information, they are likely to have lower self-efficacy (Bandura, 1977b).

Numerous studies have supported self-efficacy theory and the impact it has on various areas of an individual's life. Holzberger, Philipp, and Kunter (2013) found that when teachers' self-efficacy beliefs were higher, they had better management of their classroom, higher cognitive activation, and provided more learning support for their students; however, things were opposite when self-efficacy was low. Further, Aydin (2015) found that high school students academic motivation for learning biology were higher among students who had high levels of self-efficacy and metacognitive awareness than compared to students with low levels of both. Mega, Ronconi, De Beni (2014) also demonstrated that higher levels of self-efficacy play a major role in the academic achievement of students because to have the motivation to be a successful student, the student has to believe they have the ability to complete the necessary academic tasks. This describes the situation-specific use of self-efficacy, which is academic self-efficacy.

Academic Self-Efficacy Theory

Academic self-efficacy is the beliefs an individual has about their overall academic abilities (Bandura, 1977a, 1986, 1997). In other words, academic self-efficacy refers to the beliefs an individual has about their ability to successfully start, complete, and achieve their personal academic tasks and goals (Bandura, 1977a, 1986, 1997). Schunk (1991) notes that students can increase their academic self-efficacy in various ways including observing other students succeed in similar tasks, receiving persuasive

information from others (e.g., you can do it), and physiological symptoms (e.g., increased sweating and heart rate). However, these influences typically do not have long term effects on the student if failures occur even after academic self-efficacy has been increased (Schunk, 1991). Other sources of information such as the difficulty of the goal/task, perceived ability, effort expended, external assistance received, the number of failures and successes, perceived similarity to models, and persuasive information credibility all carry more weight on academic self-efficacy levels (Schunk, 1991). Further, a student's skill level, outcome expectations, and perceived value of the outcomes also play heavily on academic self-efficacy levels (Schunk, 1991).

Helm (2007) explained that teachers also play a large role in their students' self-perceptions such as self-esteem. This is due to positive attitudes towards the students, which raises their self-esteem because it allows them to feel better about not only themselves but also about their academic environment (Canfield, 1990; Erkman et al., 2010; Helm, 2007). However, the current literature is lacking in research regarding the impact teachers' attitudes have on student academic self-efficacy. There are important implications of studying low-income high school student's academic self-efficacy as it pertains to how they perceive their teacher's attitudes towards them and the impact it has on their academic achievement, which is why this theory was selected for this study. Research has found that higher self-efficacy levels in students improves their academic achievement (Aydin, 2015; Mega et al., 2014). Thus, it was important to explore this connection to see if perceived teacher attitudes impacted academic self-efficacy and academic achievement to determine if it contributed to the achievement gap between low

and high-income students. In other words, academic self-efficacy theory laid the foundation for this research study to answer the research question as to what extent perceived teacher attitudes predicted academic self-efficacy and academic achievement in low-income high school students.

History of the Achievement Gap in the United States

In 1966, James Coleman published a 737-page report known as the Equality of Educational Opportunity in which he was the first to describe and document the achievement gap in the United States (Dickinson, 2016). This report was based on over 600,000 surveys that Coleman (1966) collected around the United States. This report was a significant contribution to the educational field because many thought the findings would show a gap between white and black students; however, the findings were clear that socioeconomic status played the largest role in what Coleman coined the achievement gap. At that time, no one had seen or proved this information, which made the Coleman report one of the most talked about studies in the education field (Dickinson, 2016). In fact, this report has been referenced numerous times since its publication, and it has been the foundation of countless studies on the achievement gap (Dickinson, 2016).

However, despite the information Coleman discovered showing that socioeconomic status was the largest influencing factor on the achievement gap, this gap continues to widen even as this is being written. In the 1970s, the federal government began to focus on narrowing this gap by strictly enforcing the desegregation orders that were in place and by investing more in the Great Society programs (Hertert, 2003). This

did create a 35-50% reduction in the achievement gap between 1970 and 1988 (Hertert, 2003). It was thought that higher educational attainment among black mothers, lower poverty rates, and the desegregation in Southern public schools contributed to the reduction (Hertert, 2003). However, in 1983, a report titled A Nation at Risk was published noting that students in the United States were significantly behind students in other nations (Hertert, 2003). By the end of the 1980s, other published reports such as the U.S. Department of Labor's Workforce 2000 explained that low-income and black children were not on the same academic achievement level as other students, thus, they were likely to end up in low paying jobs (Hertert, 2003). The government did react to these reports by demanding that the academic gap be reduced; however, the gap continues to widen. Throughout the 1990s up until the current date, the gap has steadily increased (40%) among both low-income and black students throughout the United States (Dickinson, 2016; Hertert, 2003; Huang, 2015; National Education Association, 2015; Reardon, 2013).

Although Coleman (1966) found that socioeconomic status played a large role in the achievement gap, there are various reasons researchers use to explain why the gap occurs between low and high-income students. A major opinion is that the achievement gap is due to a basic lack of financial resources in low-income families to provide a proper education for their children (Huang, 2015; Mark, 2013). Additionally, many researchers also believe that the gap is due to numerous degrees of variables such as laziness, negative mindsets, and small vocabularies (Jensen, 2013; Langham, 2009; Morrissey et al., 2014; Reardon, 2013). Further, current research has gone in the direction

of teacher attitudes towards their students and the impact that it has on academic achievement as an underlying reason for the achievement gap (Youn, 2016). In using this viewpoint, teacher attitudes could play a role in student academic achievement, thus, the achievement gap; however, the perspective of this research study was that academic self-efficacy may be a mediating variable in this relationship as well.

Impact of Low-Income Status on Academic Achievement

As previously mentioned, the academic achievement gap in the United States continues to widen between low and high-income students. The impact a low-income status has on a student's academic achievement is significant across the United States due to various reasons. For example, Lemberger, Selig, Bowers, and Rogers (2015) noted that students who live in low-income families typically have lower academic achievements than students who live in higher income families, which is demonstrated by the 4 to 7-point decrease in their scores on standardized tests. Further, Lemberger et al. (2015) found that the problem runs deeper than just low-income status as a study they completed using 389 typically developing students showed that there are structural differences in multiple areas of the brain when it comes to areas that control school readiness skills. Additionally, Morrissey et al. (2014) also completed a longitudinal study using 42,287 elementary students that showed low-income students not only have lower academic achievement, but also more days missed from school than higher income students do. Coley and Baker (2013) also explained that these students are not only likely to have low attendance, but they are also more likely to drop out of school two years sooner than when their high-income counterparts graduate.

These results are very similar to Marchant and Finch's (2016) research which spanned across 65 nations using 475,460 15-year old students to determine how the income level of the school and the student's low-income status impacted the students overall academic achievement. They found that low-income status did predict low academic achievement in these students, however, they also found that school income inequality played a large role in low academic achievements (Marchant & Finch, 2016). In other words, when the school's income status was low, it also correlated with low academic achievements in the students as well (Marchant & Finch, 2016). Further, Huettl (2016) also explained that more low-income students drop out of school than high-income students do, which correlates with Coley and Baker's (2013) results.

Impact of Teachers Attitudes on Academic Achievement

In the last 35 years, teacher's attitudes have been the focus of many research studies (Thompson, Warren, & Carter, 2004). Research has found that teachers attitudes in their classrooms and towards their students is vital to classroom and student success (Youn, 2016). To demonstrate this, Youn (2016) explored the impact teacher attitudes have on math achievement gain in elementary students from first to third grade and from third to fifth grade. The sample consisted of 13,543 students and 2,486 teachers from 1,650 public schools (Youn, 2016). A significant influence was found in all grades that showed students had higher math gains and achievements when teacher attitudes and sense of responsibility was positive (Youn, 2016). Even students with low math proficiency at the start of school showed a notable increase in their math achievements when the teacher had positive attitudes and a high level of responsibility towards the

students and their learning (Youn, 2016). These results are similar to another study that utilized 3,476 first-grade students and 196 classrooms and teachers among 111 different schools to assess the impact teacher attitudes had on spelling, reading, and math achievement (Boonen et al., 2014). Like Youn, Boonen et al. (2014) found that positive attitudes towards students had an impact on achievement. However, in Boonen's et al. study, one variable, job satisfaction, had a significant impact on the student's math achievements ($\beta = 0.085$, $p = .002$). In other words, when teachers were satisfied with their jobs, they have positive attitudes and a higher sense of responsibility towards their students; thus, their students' academic achievements are higher than if they were to have negative attitudes towards them.

Researchers have also found that the level teachers perceived they had of positive emotional, behavioral, and cognitive engagement increases student engagement in the classroom (van Uden et al., 2014). van Uden et al. (2014) conducted a quantitative study using 200 teachers and 2,288 students to determine which teacher characteristic has the most impact on student engagement. They found that behavioral engagement from the teacher was most beneficial to the students (van Uden et al., 2014). Furthermore, Miller (2008), using 131 students in grades 9-12, conducted a nonexperimental study to explore the relationship between teachers caring behaviors and the impact it had on student academic achievement and behavior. The results showed that when teachers caring behaviors were high, student academic achievement did increase (Miller, 2008). Although each of these research studies looks at teacher attitudes and student academic achievement in a slightly different manner, they all show how powerful teacher attitudes

can be on their student's achievements and interest in school. However, what is not discussed in these studies and others similar to them, is the difference in teacher attitudes towards different groups of students, specifically low-income students.

Teachers Attitudes Towards Low-Income Students

As the past research has demonstrated, teacher attitudes towards their students are vital to both classroom and student success as it lays the platform for learning to occur. However, research has also shown that teachers do not always carry the same attitude towards all their students equally (Miller, Kuykendall, & Thomas, 2013). In fact, teachers typically have more negative attitudes towards their low-income students when compared to high-income students (Norman, 2016). Norman (2016) discovered this while exploring the perceptions of 10 teachers regarding both low and high-income students. Although teachers do not always realize the negative perceptions they have about their low-income students, Norman's study was successful in highlighting these issues. For instance, the research showed that not only do teachers have negative attitudes towards their low-income students and their parents, but these students typically dealt with bias behaviors from the teachers in various forms (Norman, 2016). That is, the teachers did not feel that the students or their parents valued the student's education due to their low-income status, which led the teachers to attribute the students' academic struggles to "learned helplessness" or a lack of perseverance to succeed (Norman, 2016). Thus, the teachers do not feel responsible for failure in their low-income students whereas they do with their high-income students (Norman, 2016).

Additionally, when addressing behavioral issues in students, high and low-income students were classified differently (Norman, 2016). For example, if a student from both groups exhibited the same negative behavior, Norman (2016) found that the high-income students would be addressed by a short talk with the teacher explaining why the student should not carry out the behavior again; however, the low-income students were immediately given a consequence instead of a warning. Gershenson, Holt, and Papageorge (2016) also found the differences between teacher's perceptions of low and high-income students by using data from the Education Longitudinal Study of 2002 in which 16,810 student-teacher dyads were analyzed to find out how teacher expectations differed among low socioeconomic status and black students.

Not only did their results coincide with Norman's (2016) regarding negative attitudes towards low-income students, but they also found that teachers hold much lower academic expectations for these students (Gershenson et al., 2016). This can cause the student to fall short of their full academic potential because they are not being motivated and encouraged to strive for their goals. Furthermore, an interesting part of Gershenson et al. (2016) study was that they found that black teachers had higher expectations for black students than did the white teachers, which was beneficial to the students' academic achievements; however, their expectations for low-income white students were still low. Similar to the research conducted by both Norman and Gershenson et al., Miller et al. (2013) collected data from 199 teachers, and among other things they studied, they found that the teachers perceptions of their low-income students were much lower than high-income students. This research also revealed that the teacher's perceptions were not just

more negative or lower for the low-income students but also for the students' parents (Miller et al., 2013).

Further, this research found that the teachers working at schools with higher rates of students on the free or reduced cost lunch program had significantly lower perceptions of their students (Miller et al., 2013). In addition to the negative perceptions towards their students, these teachers also had negative perceptions of their students' academic development, their character, associations and communication with the students' parents, and the overall school climate (Miller et al., 2013). In other words, the teachers working in low-income schools viewed not only their low-income students and their academic abilities in a negative light, but they also viewed the students' parents and the actual school in a negative manner as well (Miller et al., 2013). These results coincide with the previous research of Norman (2016) and Gershenson et al. (2016).

The importance of positive teacher attitudes and expectations for low-income students is imperative to their future education because Boser, Wilhelm, and Hanna (2014) noted that these students are 53% less likely to enroll, attend, and graduate college than high-income students. Although teacher's attitudes are typically lower for low-income students, which does affect their current and future educational endeavors, there is another factor that also impacts these students, which includes their self-concepts. In this research study, the focus was on academic self-efficacy.

Teacher Impact on Student Academic Self-Efficacy

The current literature is greatly lacking when it comes to research on the impact teacher's attitudes have on a student's academic self-efficacy. In fact, most of studies

conducted with teachers explored the teacher's self-efficacy rather than the students. Though, I did find other studies that focused on the significance of teacher's attitudes on other areas of student self-perceptions. Helm (2007) explained that positive self-esteem will help students in various ways such as achievement; however, teacher's attitudes have a large impact on student self-esteem which can either help or hurt a child regarding how they view themselves. In one study, 256 students and 12 teachers were recruited to determine how teacher's expectations of their students' academic gain throughout the year would impact not only student achievement, but also their self-perceptions (Rubie-Davies, 2006). Rubie-Davis (2006) found that teacher expectations of the students did influence their academic self-perceptions either positively (high-expectations) or negatively (low expectations). In another study, Bressoux and Pansu (2016) found similar results to Rubie-Davies when they explored the relationship between the judgements teachers placed on their students and the impact it had on their self-perceptions of academic competence. In this study, 585 third grade students and their teachers were surveyed which determined that the judgements placed on the students did impact their self-perceptions of academic competence (Bressoux & Pansu, 2016).

Bressoux and Pansu (2016) continued researching on this topic by using another 683 third grade students and their teachers to determine if teacher's judgements of the students would impact global self-worth in addition to self-perceptions of academic competence. These results were also aligned with their first study showing that teacher judgments impacted their student's global self-worth (Bressoux & Pansu, 2016). Creative self-efficacy and how teacher's attitudes towards their students had an impact on it was

also researched by using 1,614 middle school students and their teachers (Karwowski et al., 2015). In this study, which was grounded in Bandura's social cognitive theory, the researchers found that teachers had more favorable attitudes towards female student creativity than male student creativity in both language and math (Karwowski et al., 2015). On the other hand, in a study conducted by Erkman et al. (2010), they found that student perceptions of the teacher's acceptance did correlate with more positive attitudes towards school and higher self-concepts in the students, but achievement was only raised in male students. This differs from the research Karwowski et al. (2015) completed as female students were higher in the view of the teachers.

Although these research studies did not address the impact teacher's attitudes have on academic self-efficacy specifically, they do demonstrate the significance of teacher attitudes, expectations, and acceptance on their student's self-perceptions in the classroom. However, there was one article that addressed the importance of the teacher's role in a student's academic self-efficacy. According to Sharma and Nasa (2016), teachers must learn strategies to help improve their students' academic self-efficacy because it is beneficial to their academic success, but they also mention that past research has failed to explore and explain the significant impact teachers have on student academic self-efficacy. Thus, it was important that this current research study was conducted to determine if there is a connection between teacher's attitudes and their students' academic self-efficacy.

Impact of Student Academic Self-Efficacy on Achievement

According to Honicke and Broadbent (2016), Khan (2013), and Sharma and Nasa (2014), academic self-efficacy has been shown to have an impact on a student's academic achievements. More researchers have become interested in this concept because the significant role it has in the student's confidence and choices they make regarding their education and academic achievements (Sharma & Nasa, 2014). In one study, Lee, Lee, and Bong (2014) administered two separate surveys to five hundred middle school students to explore both interest and self-efficacy as predictors of both academic achievement and self-regulation. The results showed, among other things, that grade goals do partially mediate the relationship between academic self-efficacy and achievement in a given subject (Lee et al., 2014). Furthermore, Bacon (2011) conducted a study using 101 students to determine the relationship between academic self-concepts and academic achievement in African American students that were changing from urban to rural schools. Surveys were administered to the students, and the results showed a significant relationship between academic self-concept and academic achievement in these students (Bacon, 2011).

Like both Lee et al. (2014) and Bacon (2011), Khan (2013) also found comparable results in a study utilizing 66 college students to explore the relationship between academic self-efficacy and academic performance. They found that that GPA was positively correlated with academic self-efficacy in college students (Khan, 2013). In another study, Høigaard, Kovač, Øverby, and Haugen (2015) also found that academic self-efficacy was a significant predictor for academic achievement in 475 14 and 15-year-

old students. Further, Komarraju and Nadler (2013) used 257 undergraduate students (subset of the 407 students they used in their first study) and administered surveys to determine if GPA was correlated with self-efficacy, self-regulation, task value, control of learning beliefs, rehearsal strategies, and time management. They found that GPA was positively correlated to each of the variables; however, self-efficacy was the only variable that significantly predicted GPA (β=.30, b=.20, $t(254) = 4.95$, $p<.001$) in the college students (Komarraju & Nadler, 2013).

The results discussed thus far were a major theme in studies on this topic throughout the literature search. In fact, there is a wealth of research in this area noting that academic self-efficacy impacts academic achievement; however, there was one study that has contradicting results. Maropamabi (2014) surveyed 100 college students ages 18 to 36 to explore the relationship between self-efficacy and self-esteem in academic performance. The results of Maropamabi's study demonstrated a negative relationship among self-esteem and self-efficacy (p=0.000). Additionally, there was no relationship found between self-efficacy and up-bringing, academic performance, and age group and between academic performance and self-esteem (Maropamabi, 2014). Finally, there were no significant relationships found between self-efficacy or self-esteem and academic self-efficacy (Maropamabi, 2014). These results are interesting because the previous research that was found throughout the literature search showed a positive correlation between the two variables rather than no correlation. The current research study was conducted to gather more information on the connection between student academic self-efficacy and the impact that it had on the student's achievement in low-income high school students.

Further, it was necessary to also explore whether their teacher's attitudes (positive or negative) had an impact on low-income high school students' academic self-efficacy as well because this may be responsible for the lower academic achievement in this group.

Summary and Conclusions

The United States is dealing with a continuing increase in the achievement gap between low and high-income students (Huang, 2015). If the gap continues to widen, it will be difficult to predict when it will end or how far behind low-income students will be compared to high-income students. This presents a significant problem in the education field because all students deserve to have the same educational opportunities regardless of their parent's income status, which is the foundation of the achievement gap. That is, children suffering in their academic achievements due to their parent's income status. However, since the "Coleman Report" was published in 1966; researchers have suggested various reasons as to why the achievement gap occurs and continues to grow between low and high-income students.

However, using past research on the variables, this literature review detailed different perspectives on the academic achievement gap in the United States. What is known, based on these past studies, is that research shows positive correlations between teachers' attitudes and students' academic achievement. Also, the impact teacher's attitudes have on student academic self-efficacy or other self-perceptions has been demonstrated. Further, the impact between student academic self-efficacy and their academic achievements, and the negative attitudes teachers have towards their low-income students has been discussed. Additionally, the past literature revealed that most of

the studies conducted on these variables used elementary, middle school, or college students instead of high school students (Gallagher, 2016). This is a significant issue because high school students are going through a dynamic period of their life where they are making decisions for the rest of their lives; however, researchers have not focused on this group of students (Gallagher, 2016). It has also been demonstrated that past research has not focused on how low-income students perceive their teacher's attitudes towards them and how this impacts the students' academic self-efficacy and their perceived academic achievements. Thus, this current research needed to be explored by using the hypothesis that academic self-efficacy may mediate the relationship between perceived teacher attitudes and perceived academic achievement in low-income high school students because it could provide a new explanation as to why the achievement gap occurs between low and high-income students. It could also provide insights for educational professionals and future researchers on ways to improve academic self-efficacy, thus, academic achievement in this population.

In chapter 3, I will discuss the research design and rationale, methodology including the population, sampling and sampling procedures, procedures for recruitment, participation, and data collection, and instrumentation and operationalization of constructs. Additionally, I will explain the data analysis plan and threats to external and internal validity. Finally, I will detail the ethical procedures for the study.

Chapter 3: Research Method

Introduction

The purpose of this quantitative nonexperimental correlational research study was to discover how perceived teacher attitudes impacted low-income high school students' academic self-efficacy and perceived academic achievement. Through this research I determined this by exploring if academic self-efficacy was a mediator in the relationship between perceived teacher attitudes and perceived academic achievement.

I begin this chapter by providing details regarding the selected research design and the rationale behind it. I also describe the population sampling and sampling procedures in detail including an explanation of the power analysis used to determine the sample size for the study. Further, I discuss the procedures for recruitment, participation, informed consent, and data collection from low-income high school students. Data collection occurred by using two instruments and gathering demographic information from each of the students. In the next section I explain the demographic information that I collected and a description of each of the instruments along with reliability and validity information for both. I then explain the data analysis plan in addition to restating the study's research questions. Finally, I discuss threats to validity and ethical procedures for the study.

Research Design and Rational

Creswell (2014) noted that the research design selected must match the procedures of inquiry, specific methods for data collection, analysis, interpretation of the results, and the philosophical views of the researcher. A quantitative research design is

typically used for testing theories by looking at the relationships that exist between the variables of the study (Creswell, 2014). In this research, Bandura's (1977, 1986) social cognitive and self-efficacy theories were the foundation of exploring the relationship in the variables. However, in order to use a quantitative design, the variables must be able to be measured to produce numbered data for statistical analysis (Creswell, 2014). Therefore, established instruments were utilized along with predetermined methods for analysis and interpretation of the results. This research design is consistent with previous research on teacher attitudes, academic self-efficacy, and academic achievement (Amatea et al., 2012; Erkman et al., 2010; Helm, 2007; Honicke & Broadbent, 2016; Huang, 2015; Kim, Kim, & Lee, 2015; Morrissey et al., 2014; Suldo & Shaffer, 2007; Youn, 2016). In this study, the research was focused on determining what influence academic self-efficacy (mediator) had in the relationship between perceived teacher attitudes (independent/predictor variable) and perceived academic achievement (dependent/criterion variable) by administrating surveys; thus, it represented a postpositivist view. Further, I used a nonexperimental correlational design for this research to explore, measure, and describe the association between perceived teacher attitudes, academic self-efficacy, and academic achievement at one point in time. I used a cross-sectional survey design to capture the students' attitudes and opinions in a way that allowed for numerical data and statistical analysis. I conducted multiple regression analysis on the research data obtained.

Methodology

Population

In the United States, the National Center for Children in Poverty (NCCP; 2016) determined that approximately 44% of all children live in a low-income household, which represents roughly 71,914,221 children. Further, when considering children between the ages of 12-17, the NCCP (2017) explained that 39% or roughly 9.4 million live in low-income households and another 18% or 4.3 million live in poverty. Throughout the United States, there are 13,515 public school districts, and although some of these districts are categorized as low-income districts in the state where they are located, there are low-income students that attend each of the 13,515 districts (Center for Education Reform, 2016).

Therefore, the population for this research included low-income high school students that were in grades 9-12 throughout the United States. Although there are specific school districts in the United States that are categorized as low-income schools, this research did not limit the population to only these schools. Instead, the research was open to any low-income high school student who attends any of the 13,515 public school districts in the United States. These low-income high school students were considered for the research regardless of age, region, race, background, or school income category so that any student who comes from a low-income family was included. I believed that opening the research to the larger population of low-income high school students in this manner allowed for a more representative sample.

Sampling and Sampling Procedures

The sampling strategy for this research was purposive nonprobability sampling. This sampling strategy is utilized when there is no way for a researcher to reach every person in the target population (Creswell, 2014). Therefore, due to the large size of this population, for this research I used the internet to reach a representative sample of the population. This was completed by placing online Facebook posts on different Facebook webpage locations that were likely to reach the intended populations' parents/guardians. I think it is important to note that this sampling strategy targeted the parents rather than the high school students themselves to ensure full parental consent for participation.

Participants were eligible for this study if they received parental consent to complete the online surveys. Additionally, they had to be a current low-income (qualify for the free or reduced cost lunch program) high school student in grades 9-12 at the time of participation. Students who did not obtain parental consent, those who had recently graduated, or those who would be entering ninth grade after summer break were eligible for this research study.

In calculating the sample size for this research, I used Schoemann, Boulton, and Short's (n.d.) online indirect effects calculator at https://schoemanna.shinyapps.io/mc_power_med/. Using a correlation matrix of medium-size (r = .30) population estimated pairwise relationships between IV and mediator, mediator and DV, and IV and DV, a sample size of 105, 130, 160, and 200 would provide power of .60, .70, .80, and .90, respectively, to detect a statistically significant (alpha = .05) mediating effect. For sample size planning purposes, Stevens (2002) recommended a

priori power be set at no less than .70. Therefore, the target sample size for this research was 130 participants with complete data.

Procedures for Recruitment, Participation, and Data Collection

Once approval was obtained from the Walden University Institutional Review Board (Approval number: 05-01-18-0338384), online Facebook posts were placed on different webpages, which included the Facebook group "Judge Free Moms." This group currently has over 4,000 adult members from all over the United States. A link was included in each of these Facebook posts that parents could use to access the survey.

As previously noted, parents were the target of the survey invitations (instead of the students) so they could provide informed consent to allow their student to participate. The parent invitation/consent included information on the purpose of the study as well as the process necessary for their student to participate, which included e-mailing their student a link to the survey or having them complete it right after they read the consent. The names of participants or their parents were not requested for either the consent or the survey due to the anonymous nature of the survey. Instead, implied parental consent occurred due to the invitations being targeted to the parents. In other words, the students did not have access to the survey unless it was provided to them by their parent, thus, giving consent to participate. At that time, the students read a student assent form and made the decision as to whether they wanted to participate or not.

Additionally, the consent explained the potential risks and benefits, confidentiality, and the approximate time to complete the survey. A website address was also included so that they could view the results at a later date. Further, my contact

information was provided in the event there was a question or concern. Finally, both the parents and the students were made aware that their participation is completely voluntary. I also explained that they could remove their completed survey from the research study at any time before submitting it.

The inclusion criteria (current high school student, qualify for the free or reduced cost lunch program) was also explained. The exclusion criteria included students who have recently graduated, those who have not yet started the ninth grade, and those who do not qualify for the free or reduced cost lunch program. Once consent was obtained, the students were free to access and complete the survey if they so choose.

I used the survey website SurveyMonkey to administer the survey to low-income high school students. The two surveys that included the Panorama Student Survey: Classroom Teacher-Student Relationship and the Academic Self-Efficacy subscale from SEQ-C along with demographic information (age, gender, grade level, eligibility for the free or reduced cost lunch program, and state), and the perceived academic achievement question, were put together in one cohesive survey. In combining these surveys, the students could use one link to access the entire survey instead of using multiple links to complete all the short surveys. This made the process easier, efficient, and less frustrating and time-consuming for the students.

The target sample size was 130 participants with complete data. Allowing for a 90% usability rate for those who accessed the survey, once 145 participants accessed the survey, the survey was closed, and the data were transferred to the statistical software program IBM SPSS for data analysis. All transferred data was password protected, and

the only person who has access is myself as the researcher and the dissertation committee members.

Instrumentation and Operationalization of Constructs

Demographic. Demographic information about the students was collected at the beginning of the survey. The information included the participants' age, gender, grade level, eligibility for the free or reduced cost lunch program, and the state that they live in (see Appendix A). This information was used to ensure that all the participants met the inclusion criteria. The demographics took approximately two minutes to complete.

Perceived academic achievement. The students self-perceived academic achievement was recorded by using a Likert-type scale with a single question asking for the students' thoughts about their overall achievement (Matthews, 1996; Richardson, Bergen, Martin, Roeger, & Allison, 2005). Responses were on a five-point scale as follows: (1) poor, (2) fair, (3) average, (4) good, (5) excellent (Matthews, 1996; Richardson et al., 2005). Perceived academic achievement was used instead of GPA scores because the goal of this research was to capture the student's perceptions of all the variables including perceived teacher attitudes, academic self-efficacy, and academic achievement (see Appendix A). Additionally, perceived academic achievement was used because in this research I aimed to determine if the way the student stated they feel about their teacher's attitudes towards them was reflected in how they felt about their overall academic achievements. This question took approximately two minutes to complete.

Panorama Student Survey: Classroom teacher-student relationship. The Panorama Student Survey (see Appendix B) was created in 2014 by Dr. Hunter Gehlbach

and researchers at the Harvard Graduate School of Education (Panorama Education, 2016). This is a free and open source survey tool (see Appendix C) that anyone can use as long as they include the name of the survey within their writing so that others can find the survey if interested in using it (Panorama Education, 2016). Dr. Gehlbach developed the Panorama Student Survey to gather student perceptions of effective teaching (Panorama Education, 2016). This set of survey scales can measure various factors within the teacher-student relationship which includes the student's perceptions of teaching and learning, student perceptions of school climate and their strengths and weaknesses (Panorama Education, 2016). Further, the survey questions were created for two separate age groups of students including students in grades 3-5 and grades 6-12, and they are broad enough to use in any school district or region (Panorama Education, 2016).

The specific subscale that this research used was the Classroom Teacher-Student Relationship subscale, which explores how strong the teacher-student connection is both in and out of the classroom (Panorama Education, 2016). I selected this subscale to measure perceived teacher attitudes towards low-income high school students because it is the only scale of its kind that has the ability to measure the relationship between the student and their teacher from the student's unique perspective (Panorama Education, 2016).

Scoring. The Classroom Teacher-Student Relationship subscale for grades 6-12 consists of five questions with five response anchors for each question. The questions include: How respectful is this teacher towards you; If you walked into class upset, how concerned would your teacher be; If you came back to visit class three years from now,

how excited would this teacher be to see you; when your teacher asks how you are doing, how often do you feel that your teacher is really interested in your answer; and How excited would you be to have this teacher again (Panorama Education, 2016)? One example of the five response anchors for each question includes, "not at all respectful, slightly respectful, somewhat respectful, quite respectful, and extremely respectful" (Panorama Education, 2016). This subscale took approximately five minutes to complete.

Reliability and validity. Panorama Education (2017), Dr. Gehlbach, and the researchers at Harvard University completed extensive research on the development, implementation, and pilot testing of the survey. Two in-depth pilot studies using 4,225 and 2,994 participants from diverse high schools that were representative of students across the United States were completed (Panorama Education, 2017). The students were from all different races, religions, backgrounds, grades, and native languages (Panorama Education, 2017). Reliability was tested and showed that Cronbach's alpha coefficients were above .70 for all the Panorama Student survey scales and .86 for the specific Classroom Teacher-Student Relationship subscale that this research used (Panorama Education, 2017). They built validity into their survey from the onset of the creation to ensure validity was established consistently throughout the development process (Panorama Education, 2017). Structural validity was established by using a confirmatory factor analysis to show evidence of comparative fit indices and root mean square error of approximation (Panorama Education, 2017). There is also evidence of convergent and discriminant validity in each section of the survey reported by correlations and statistical tests (Panorama Education, 2017).

Academic Self-Efficacy subscale from Self-Efficacy Questionnaire for Children. The SEQ-C (see Appendix D) was developed by P. Muris in 2001 to study affective disorders in children. It was created to measure children in three different self-efficacy areas (social, academic, emotional); however, affective disorders are only one of the various research settings it can be applied to (Muris, 2001). It consists of 24 questions in three main areas of self-efficacy that include social (coping with social challenges), academic (mastering academic goals), and self-regulatory (resist peer pressure) efficacy (Sabatelli, Anderson, & LaMotte, 2005). Among the 24 questions, there are three subscales that consist of 8 questions each, which include social, academic, and emotional self-efficacy (Sabatelli et al., 2005). Each subscale can be combined with the others and administered as the SEQ-C scale, or they may be administered on their own for specific results pertaining to the area of self-efficacy the researcher needs (Muris, 2001). The SEQ-C was developed and recommended for students between 14-18 years old or grades 8-12 (Sabatelli et al., 2005). Permission to use the SEQ-C or any subscale is not needed as it is a free scale for anyone to utilize (see Appendix E).

The specific subscale that this research used was the Academic Self-Efficacy subscale. This subscale was created to determine a student's perception of their academic abilities (Muris, 2001). That is, Muris (2001) notes that the scale measures the perceived capability for the student to take care of our own learning, mastering subjects, and achieving academic goals and expectations. This subscale was selected because the questions target academic self-efficacy from the student's perspective, which was needed in this study. Academic self-efficacy is vital to students being successful in their

educational settings, therefore, accurately measuring this variable was key to determining the mediating role it has between perceived teacher attitudes and academic achievement in the target population, which this scale did.

Scoring. The Academic Self-Efficacy subscale for students aged 14-18 years old consists of eight questions that participants rate on a 1 to 5 Likert scale. A response of 1 indicates "not at all," and a response of 5 indicates "very well." These scores are then summed. A few examples from the survey include: "How well do you succeed in finishing all your homework every day" and "How well can you get teachers to help you when you get stuck on schoolwork?" This subscale took approximately five minutes to complete.

Reliability and validity. Reliability was tested and showed that Cronbach's alpha coefficients were between .85 and .88 for each of the subscales and .88 for the SEQ-C scale (Muris, 2001). Validity was established in one study by using 697 middle and high school students of low-socioeconomic status by using an exploratory factor analysis, which supported the three factors (academic, social, and emotional self-efficacy) of the SEQ-C (Suldo & Shaffer, 2007). Criterion validity was also noted through correlations in the predicted directions between self-efficacy and psychological functioning (Suldo & Shaffer, 2007). However, it was noted that academic self-efficacy was the strongest measure indicating that this scale is most appropriate for measuring academic self-efficacy (Suldo & Shaffer, 2007).

Further, another study used confirmatory factor analysis and a Pearson correlation to establish validity by using 334 children ages 13-18 with disadvantaged socioeconomic

backgrounds (Kim et al., 2015). The SEQ-C was also found to be a reliable scale measuring academic, social, and emotional self-efficacy (Kim et al., 2015). Construct validity was supported after a significant correlation was found (Kim et al., 2015). Finally, Muris (2001) explains that internal consistency reliability of the scale is satisfactory, the scores correlate in a meaningful manner with what it is measuring, and that a factor analysis also revealed the factors were measuring what they should in all three subscales (academic, social, and emotional self-efficacy).

Data Analysis Plan

Once the data were complete, it was transferred to the IBS SPSS statistical program for data analysis. The data were checked for accuracy by comparing the information entered in the SPSS program to the information from the original survey and demographic information. This was to ensure that all the information was entered completely and accurately. The data were then checked for missing data by running frequencies on all the variables. The data were also checked for the presence of outliers. Once the data was checked for missing information and before the statistical analysis was conducted, data cleaning occurred by checking the assumptions. The eight assumptions that were checked included ensuring that the dependent variable was measured on a continuous scale; that there were two or more independent variables; independence of observations; linear relationship between variables; show homoscedasticity; not show multicollinearity; no significant outliers; high leverage points or highly influential points; and that the residuals were approximately distributed (Williams, Grajales, & Kurkiewicz, 2013).

The research question and hypotheses for this study are restated below:

RQ: To what extent does academic self-efficacy mediate the relationship between perceived teacher attitudes towards low-income students and academic achievement?

H_0: The indirect effect of perceived teacher attitude on academic achievement through academic self-efficacy is not statistically significant.

H_a: The indirect effect of perceived teacher attitude on academic achievement through academic self-efficacy is statistically significant.

The mediation model was examined in IBM SPSS using Hayes's (2013) free PROCESS macro add-in specifically designed for mediation. Output contains model *R*s; path coefficients, their *p* values and confidence intervals; magnitude of total, direct, and indirect effects and the 95% bootstrap confidence interval of each effect. A normal theory statistical significance test (i.e., Sobel test) of the indirect effect was also provided, but emphasis was on the 95% bootstrap confidence interval to interpret the significance of the indirect effect. The bootstrap confidence intervals have more power than the Sobel test because the Sobel test assumes a normal distribution of the indirect effect, which is rarely true.

Finally, all the research data collected was stored on a computer only accessible through a secure password. There is also a memory stick holding a backup of the data which is stored in a locked cabinet. All the computer and memory stick data will be stored for five years before it is destroyed.

Threats to Validity

Threats to External Validity

Although there could be many threats to both external and internal validity in any research study, precautions were implemented to minimize these threats. For example, threats to external validity included the ability for the results to be generalized. The sampling method used for this research was purposive non-probability sampling because there is no way to reach every low-income high school student in the United States. However, due to having a large sampling frame of roughly 4,000 people (just in one of the internet sources) located all over the United States, a representative sample could possibly be obtained. On the other hand, only low-income high school students were included in the study. Therefore, middle to higher income students, students who are not in high school yet, and students who have recently graduated will not be included in the study. Thus, the results will not be generalizable in these populations.

Threats to Internal Validity

Although threats to internal validity are not thought to stem from history, maturation, selection, statistical regression, instrumentation, mortality/attrition, and biases in the sample selection for this research study, testing threats could have been problematic (Huitt, Hummel, & Kaeck, 2003). Due to the use of a self-administered survey in this study, the students were expected to give truthful responses. However, reactivity could have been experienced in that the students may have wanted to provide responses that they believed the researcher wanted to see rather than truthful responses. To minimize this threat to internal validity, the responses to the survey were anonymous.

This was done so that there is no way for anyone, including the researcher, to identify the student, which the students were made aware of in the introduction to the survey.

Ethical Procedures

In order to collect data from the students, Walden University's IRB approved the research proposal to ensure that the study was conducted in an ethical manner. It is vital to ensure that ethical guidelines and precautions were taken in this and any research study where human participants are used. In this study, the risk to the participants was minimal. However, using low-income high school students as participants poses a few ethical considerations, which were addressed. That is, because the students were most likely be minors, they needed to be protected from participating in research that could cause them harm. Thus, the participation invitation was targeted to the parents to ensure parental consent. In the consent, both the parents and the students understood the purpose of the study and the inclusion criteria. Due to the student's low-income status, no incentives were provided to help ensure voluntary participation.

Further, singling these students out due to their low-income status could have caused some concerns with the students and their parents if the research is conducted in a setting such as a high school. Therefore, an anonymous online survey was used to ensure the students privacy and reduce ethical concerns. This means that there was no identifying information collected in the survey so that the participants are kept anonymous. The data collected will be kept securely for five years, which follows ethical guidelines and procedures. The only people that saw the data was the researcher and dissertation committee. Finally, a results summary was provided through a link in the

consent and assent forms. The results will also be disseminated in a professional journal if accepted.

Summary

The purpose of this quantitative nonexperimental correlational survey research study was to discover how perceived teacher attitudes impacted low-income high school student's academic self-efficacy and perceived academic achievement. This research determined this by exploring if academic self-efficacy is a mediator in the relationship between perceived teacher attitudes and perceived academic achievement. The primary purpose of this chapter was to provide a detailed explanation of the selected research design and methodology of the research study. This chapter addressed the population and sampling and sampling procedures, and the sample size. It also discussed the procedures for recruitment, participation, informed consent, and data collection from low-income high school students. Further, the demographic information that was collected and a description of each of the instruments along with reliability and validity information for both was explained. The data analysis plan and the study's research question were also provided. Finally, threats to validity and ethical procedures for the study were discussed.

In the next chapter, the process of data collection will be discussed along with providing the time frame for data collection and the recruitment and response rates. I will also present the discrepancies, if any, in the data along with explanation of how representative the sample is of the population of interest. Finally, I will explain the statistical analysis by detailing information on how I evaluated the assumptions for regression and the results of the study. Tables will be used to display the results as well.

Chapter 4: Results

Introduction

In the United States, the achievement gap between low and high-income students has continued to widen (National Education Association, 2015). Although many professionals and researchers have given various explanations as to why this gap continues to widen, the past literature demonstrates that teachers are vital to their students' success (Jensen, 2013; Langham, 2009; Morrissey et al., 2014; Reardon, 2013; Youn, 2016). In fact, previous studies have demonstrated that teacher attitudes towards their students impact the student's overall grades (Amatea et al., 2012; Canfield, 1990; Gallagher, 2016; Helm, 2007; Norman, 2016). Additionally, previous research has also made the connection between different self-perceptions and academic achievement of students (Bressoux & Pansu, 2016; Helm, 2007). However, what the current literature is lacking is research on the mediating effect of academic self-efficacy in the relationship between perceived teacher attitudes and perceived academic achievement of low-income high school students. Therefore, this is the focus of this study.

In this chapter, I discuss the purpose, research question and hypotheses, and data collection techniques. In addition, I present the results, which include survey collection, participant data, descriptive statistics of the scales, and the research question and hypothesis testing. The chapter concludes with a summary of the chapter.

The primary purpose of this quantitative study was to examine the theoretically and empirically grounded mediation model of low-income high school students depicted in Figure 1. Analysis of the mediating model determined the proportion of direct effect of

perceived teacher attitudes on perceived academic achievement (path c) as well as the indirect effect (the mediating effect) through academic self-efficacy (path ab). Secondarily, the mediation analysis indexed the simple relationships between each variable.

The research question and hypotheses for this study were:

RQ: To what extent does academic self-efficacy mediate the relationship between perceived teacher attitudes towards low-income students and academic achievement?

H_0: The indirect effect of perceived teacher attitude on academic achievement through academic self-efficacy is not statistically significant.

H_a: The indirect effect of perceived teacher attitude on academic achievement through academic self-efficacy is statistically significant.

Data Collection

I collected data over a 5-week period from May to June, 2018. The data was collected via an online survey geared towards the parents on Facebook pages using SurveyMonkey. The following three scales were used: Perceived Academic Achievement, Classroom Teacher-Student Relationship subscale, and Academic Self-Efficacy subscale to determine if academic self-efficacy mediated the relationship between perceived teacher attitudes and perceived academic achievement in low-income high school students. In addition to these three measures, I collected demographic information. A total of 145 surveys were collected from low-income high school students. The Facebook pages that I used (e.g., Judge Free Moms, Walden University

Dissertation Support Group) were selected due to the assumption that only adults were members of them. Due to parents clicking the survey to read the consent form, the response rate was low at 20%. That is, there were 670 people who clicked on the survey, but only 145 participants completed the surveys. The process for participant recruitment and data collection is described below.

First, I verified that all scales were for public use. Next, the survey invitation was sent to various Facebook groups, which included the introduction and a link to the survey. Once the page administrators approved it, the post was placed on their Facebook page. The post was then "bumped" to the top of the groups page daily until all 145 surveys were collected. Both the consent and assent forms were included in the survey link. Both forms discussed the study, any risks and benefits, the lack of compensation, where they could find the results when available, the approximate time to complete the survey, and anonymity. It was also explained to both the parents and students that the student's participation was voluntary, and they could exit the survey at any time before submitting it.

Once a parent clicked the link, they were taken to a page to select either "Parent Consent Form" or "Student Assent." After reading the consent and if they agreed, they would either click "ok" to proceed to the assent form for their child to read or they would simply "X" off the survey. Once the student read and agreed to the assent, they also selected "ok" to move on to the survey questions. If the students selected "no" that they do not qualify for the free or reduced cost lunch program or "other" instead of selecting their current grade of being 9-12, they were taken to the disqualification page. If their

answers were appropriate, they continued through the survey until either submitting or exiting before submitting. Once 145 surveys were collected, the survey was closed, and the data were transferred to the IBM SPSS statistical software program for analysis. The results are available at https://nickolecottrillresearchresults.blogspot.com/, which was explained in the consent and assent forms.

Results

Data Collection

There were 145 surveys submitted. All 145 participants were used for data analysis. The data were checked for accuracy by ensuring that there were no typos due to transferring the data between SurveyMonkey and SPSS. Accuracy was also confirmed by ensuring the data were within the proper minimum and maximum ranges. Frequencies were run to determine if there was missing data. There was no missing data. The data was then checked for the presence of outliers. Next, data cleaning occurred by checking the assumptions. Demographic information is discussed below.

Participant Demographics

I collected demographic data on gender, age, grade level, qualification for the free or reduced cost lunch program, and in what state the student resided. Participants consisted of majority girls (n = 91, 62.8%) and minority boys (n = 54, 37.2%). The students ages ranged from 13 to 21 years old. Students ages included 13 (n = 3, 2.1%), 14 (n = 16, 11%), 15 (n = 21, 14.5%), 16 (n = 45, 31%), 17 (n = 34, 23.4%), 18 (n = 24, 16.6%), 19 (n = 1, 0.7%), 21 (n = 1, 0.7%). Of the total sample, all 145 participants qualified for the free or reduced cost lunch program. Grade levels were as follows: ninth

(*n* = 28, 19.3%), tenth (*n* = 38, 26.2%), eleventh (*n* = 33, 22.8%), and twelfth (*n* = 46, 31.7%). The majority of the participants were from Ohio (*n* = 117, 80.7%). Demographic data is presented in Table 1.

Table 1

Demographic Data

Variable		Frequency	Percent
Gender			
	Female	91	62.8
	Male	54	37.2
Age			
	13	3	2.1
	14	16	11
	15	21	14.5
	16	45	31
	17	34	23.4
	18	24	16.6
	19	1	0.7
	21	1	0.7
Grade level			
	9	28	19.3
	10	38	26.2
	11	33	22.8
	12	46	31.7
Qualification for free or reduced cost lunch program			
	Yes	145	100
	No	0	0
State			
	Ohio	117	80.7
	Illinois	4	2.8
	West Virginia	4	2.8
	Georgia	3	2.1
	Florida	2	1.4
	South Carolina	2	1.4
	Tennessee	2	1.4
	American Samoa	1	0.7
	Indiana	1	0.7
	Minnesota	1	0.7
	Mississippi	1	0.7
	New York	1	0.7
	Oklahoma	1	0.7
	Oregon	1	0.7
	Pennsylvania	1	0.7
	Texas	1	0.7
	Utah	1	0.7
	Washington	1	0.7

Descriptive Statistics of the Scales

Perceived Academic Achievement scale. The Perceived Academic Achievement scale measured the students perceived achievement by asking the question, “What do you feel is your overall academic achievement level?” This was measured on a 5-point Likert scale. Higher responses indicated the students felt more positive about their academic achievements. A response of 1 indicated “poor” while a response of 5 indicated “excellent." The mean for the total scale was 3.61 (*SD* = 1.00), which indicates the students perceived their academic achievements to be more positive.

Classroom Teacher-Student Relationship subscale. The Classroom Teacher-Student Relationship subscale determines how strong the teacher-student connection is both in and out of the classroom. The scale consists of five items with the responses being on a 5-point Likert scale. The higher the student’s responses, the stronger the teacher-student connection. The responses vary with each question; however, a response of 1 indicates “not at all or almost never” whereas a response of 6 indicates “extremely or almost always.” The mean for the total scale was 3.09 (*SD* = 1.10), which indicates the students had a somewhat strong connection with their teachers. The distribution for the scale was normal. The scale also showed excellent reliability. Cronbach’s alpha for the scale was .911.

Academic Self-Efficacy subscale. The Academic Self-Efficacy subscale looks at a student’s perception of their academic abilities. The scale consists of eight items that are rated on a 5-point Likert scale. Higher responses indicate a more positive view of their academic abilities. A response of 1 indicates “not at all” and a response of 5

indicates "very well." The mean for the total scale was 3.34 (*SD* = .75) indicating a somewhat positive view of their academic abilities. The Academic Self-Efficacy subscale had a normal distribution and Cronbach's alpha of .850, which shows good reliability. Table 2 shows the descriptive statistics for each of the scales used.

Table 2

Descriptive Statistics of the Scale

Scale	Cronbach's alpha	Number of items	*M*	*SD*	Minimum	Median	Maximum	Skewness	Kurtosis
Perceived Academic Achievement		1	3.61	1.00	1.00	4.00	5.00	-.339	-.594
Classroom Teacher-Student Relationship subscale	.911	5	3.09	1.10	1.00	3.20	5.00	-.194	-1.243
Academic Self-Efficacy subscale	.850	8	3.34	.75	1.00	3.38	4.75	-.274	-.197

Research Question and Hypothesis Testing

To address the research question—To what extent does academic self-efficacy mediate the relationship between perceived teacher attitudes towards low-income students and academic achievement—I used multiple regression analysis. First, I conducted a simple regression of perceived teacher attitudes, which was shown to predict academic self-efficacy in low-income high school students. That is, perceived teacher attitudes positively affected academic self-efficacy ($b = .38$, $t(143) = 8.14$, $p < .001$) with 31.7% of the variance in academic self-efficacy explained by perceived teacher attitudes.

In addition, I conducted a multiple regression and found that perceived teacher attitudes and academic self-efficacy predicted academic achievement. However, academic self-efficacy was significant (p <.001), but perceived teacher's attitudes was not (p = .405). It was also found that 27.1% of the variance in academic achievement was explained by the combined effects of academic self-efficacy and perceived teacher attitudes. Further, I conducted a simple regression of perceived teacher attitudes and it was shown to predict academic achievement as well. Thus, perceived teacher attitudes positively affected academic achievement (b = .22, t(143) = 3, p <.001) noting 5.8% of the variance in academic achievement was explained by perceived teacher attitudes.

In looking at the direct effect of perceived teacher attitudes (X) on academic achievement (Y), the results were not significant (p = .4054). Academic self-efficacy completely mediated the relationship between perceived teacher attitudes and academic achievement. However, the direct effect of perceived teacher attitudes on academic achievement changed from negative controlling for academic self-efficacy to positive when not controlling for it; thus, there was an inconsistent mediation. The pattern in which academic self-efficacy increased in a simple regression with academic achievement (b = .691) to b = .745 when controlling for perceived teacher attitudes, and perceived teacher attitudes decreased and changed sign in a simple regression with academic achievement (b = .220) to b = -.066 when controlling for academic self-efficacy, there was cross-over suppression (Robins, Trzesniewski, & Tracy, 2004). This was further demonstrated by the indirect effect of perceived teacher attitudes through academic self-efficacy on academic achievement being a larger effect (.2863) than the

simple relationship (i.e., total effect to be mediated) between perceived teacher attitudes and academic self-efficacy (B = .22). Typically, the indirect effect is smaller than the total effect; however, this was not the case due to cross-over suppression. Additionally, because of this, 129.98% of the total effect was accounted for by the indirect effect, which mathematically does not make sense, but does index the amount of cross-over.

Sometimes, cross-over suppression occurs because of an uncontrolled confounding variable. Available demographic data were screened as potential confounders, and gender differences were found for academic achievement—girls M = 3.82, SD = 0.96; boys M = 3.26, SD = 0.97; $t(143) = 3.4$, p = .001. Gender differences were also found for academic self-efficacy—girls M = 3.47, SD = 0.70; male M = 3.11, SD = 0.78; $t(143) = 2.9$, p = .005. Therefore, the mediation analysis was rerun controlling for gender. Table 3 shows the results of the relevant simple models and the two mediation models (without and with gender).

Table 3

Mediation Analysis

	Dependent variable					
	Academic self-efficacy			Academic achievement		
Model	*b*	*SE*	*p*	*b*	*SE*	*p*
Constant				2.932	.243	
Teacher attitude				0.220	.074	.003
				$R^2 = .058$		
				$F(1, 143) = 8.8, p = .003$		
Constant				1.310	.327	
Academic self-efficacy				0.691	.096	< .001
				$R^2 = .267$		
				$F(1, 143) = 52.1, p < .001$		
Constant	2.147	.155		1.332	.329	
Teacher attitude	0.384	.047	< .001	-0.066	.079	.405
Academic self-efficacy				0.745	.116	< .001
	$R^2 = .317$			$R^2 = .271$		
	$F(1, 143) = 66.3, p < .001$			$F(2, 142) = 26.3, p < .001$		
Constant	1.913	.163		1.284	.326	
Teacher attitude	0.385	.045	< .001	-0.037	.079	.639
Academic self-efficacy				0.673	.120	< .001
Gender (0 = male)	0.368	.103	< .001	0.321	.153	.037
	$R^2 = .373$			$R^2 = .293$		
	$F(2, 142) = 42.3, p < .001$			$F(3, 141) = 19.5, p < .001$		

In the mediation model with gender controlled, the relationship between perceived teacher attitudes and academic achievement was, as before, completely mediated by academic self-efficacy. Again, there was cross-over suppression, but slightly smaller in magnitude.

As perceived teacher attitude increased by 1-point, academic self-efficacy was predicted to increase by 0.385 points for boys and 0.753 for girls. As perceived teacher attitude increased by 1-point, academic achievement was predicted to decrease by 0.037

points. This decrease, though, was more than made up for by a 1-point increase in academic self-efficacy, which predicted a 0.673-point increase in academic achievement. Because teacher attitude was measured on a 1-5 scale, the maximum negative effect was 0.185, but the minimum positive effect of self-efficacy was 0.673. In addition, girls were predicted to have a 0.321-point higher academic achievement score than boys.

Therefore, academic self-efficacy fully mediated the relationship between perceived teacher attitudes and academic achievement in low-income high school students and the null hypothesis was rejected. That is, this study found that the way low-income high school students felt about their teacher's attitudes towards them impacted their self-confidence about their ability to do well in school and the way they thought about their academic outcomes. In addition, this study found that female students had higher academic self-efficacy and higher perceived academic achievement levels. In other words, low-income high school female students felt better about their self-confidence and had better academic outcomes than the male students did.

Summary

The purpose of this study was to determine if academic self-efficacy mediated the relationship between perceived teacher attitudes and perceived academic achievement in low-income high school students. The research question was addressed by conducting multiple regression analyses using Hayes PROCESS macro for SPSS. The regression showed statistically significant results in that academic self-efficacy does full mediate the relationship among perceived teacher attitudes and perceived academic achievement in low-income high school students. However, gender was also added into the model due to

suppression, thus, the mediation is statistically significant when adding gender into the model.

In chapter 5, I will provide a summary of the findings, the interpretation of those findings, and the limitations of the study. Further, I will explain the recommendations, future research, and implications for social change. Chapter 5 will end with a conclusion to the research study.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

The purpose of this research study was to determine if academic self-efficacy mediated the relationship between perceived teacher attitudes and perceived academic achievement in low-income high school students. It was important to conduct this study because future researchers may use these results to help improve teacher's attitudes towards and academic self-efficacy in low-income high school students. If this occurs, it should also help increase the students' academic achievements, self-confidence, and success after graduation.

Creswell (2014) noted that a research approach should be selected based on the research questions, which is why I used a quantitative nonexperimental survey research design for this study. Additionally, theory was used to examine the relationship among the variables that were not manipulated, and this also points to a quantitative research approach (Creswell, 2014). In considering the research question, I also determined that existing instruments should be used to collect the data, which would then be analyzed using a statistical approach. The statistical approach that fit this research study was multiple regression due to exploring the mediating effect among variables.

I conducted this study to open the communication lines among psychologists, educators, and other interested professionals regarding the improvement of the academic achievement gap in the United States. Many of the professionals that were included in the literature review agree that the gap is caused because low-income students have fewer resources and educational opportunities available to them than high-income students do;

thus, they fall behind quickly (Huang, 2015; Reardon, 2012). However, this research offered another viewpoint that perhaps both perceived teacher attitudes towards and the academic self-efficacy levels of low-income high school students play a role in the academic achievement gap in the United States.

Summary of Findings

Data were collected over a 5-week period from May to June, 2018, via an online survey geared to parents on Facebook pages using SurveyMonkey. The following three scales were used: Perceived Academic Achievement, Classroom Teacher-Student Relationship subscale, and Academic Self-Efficacy subscale. In addition to these three measures, I collected demographic information.

A total of 145 surveys (all surveys collected were used) were collected from low-income high school students using various Facebook pages that were all geared towards their parents. All participants were high school students in grades 9 through 12, and they all qualified for the free or reduced cost lunch program. The majority of the participants were girls, and most of the students were between the ages of 16 and 18. Although most of the participants were from Ohio, there were participants from 17 other states as well.

When looking at the results from all three of the scales, the perceived academic achievement question showed that the students typically perceived their academic achievements to be more positive. The Classroom Teacher-Student Relationship subscale showed that the students had a somewhat strong connection with their high school teachers. Finally, the Academic Self-Efficacy subscale indicated that the students had a somewhat positive view of their academic abilities.

The research question—To what extent does academic self-efficacy mediate the relationship between perceived teacher attitudes towards low-income students and academic achievement—was addressed by using multiple regression. The first simple regression of perceived teacher attitudes was shown to predict academic self-efficacy in low-income high school students. This means that perceived teacher attitudes positively affected the students' academic self-efficacy levels. Next, I completed a multiple regression that demonstrated that perceived teacher attitudes and academic self-efficacy predicted academic achievement in the students. Although academic self-efficacy was significant, perceived teacher's attitudes were not. Further, another simple regression showed that perceived teacher attitudes predicted academic achievement as well. That is, perceived teacher attitudes positively affected academic achievement in the students.

In looking at the direct effect of perceived teacher attitudes on academic achievement, the results were not significant. Academic self-efficacy completely mediated the relationship between perceived teacher attitudes and academic achievement. However, the direct effect of perceived teacher attitudes on academic achievement changed from negative controlling for academic self-efficacy to positive when not controlling for it; thus, there was an inconsistent mediation. Due to the way in which academic self-efficacy increased in a simple regression with academic achievement when controlling for perceived teacher attitudes, and perceived teacher attitudes decreased and changed sign in a simple regression with academic achievement when controlling for academic self-efficacy, there was cross-over suppression. I determined that gender should be added into the model due to it being a confounder. When redoing the analysis

controlling for gender, the relationship between perceived teacher attitudes and academic achievement was completely mediated by academic self-efficacy. Therefore, the results of this study showed that academic self-efficacy fully mediated the relationship between perceived teacher attitudes and academic achievement in low-income high school students.

Interpretation of Findings

The theoretical framework for this study was Bandura's social cognitive, self-efficacy, and academic self-efficacy theories. Bandura (1986, 1989) notes that humans learn by observing other's behaviors, attitudes, and the outcomes that stem from those behaviors. Evolving from this theory, self-efficacy theory refers to the beliefs that an individual has about their own abilities to complete or succeed in achieving tasks or goals in their lives (Bandura, 1977a, 1986). In other words, self-efficacy refers to the personal beliefs an individual has regarding the likelihood of being successful at completing a specific task or goal (Bandura, 1977a, 1986). The impact self-efficacy has on an individual's life is tremendous as it influences numerous areas of their lives due to it determining how they think, feel, motivate themselves, and behave (Bandura, 1977a, 1986). For example, in an academic setting, a student might not do well because they do not have high self-efficacy; thus, they lack the motivation to do their best on their academic tasks.

According to Bandura (1997a, 1986, 1997), academic self-efficacy is the beliefs a student has regarding their abilities to successfully start, complete, and achieve their academic tasks and goals. Further, students can increase their academic self-efficacy by

observing other students succeed in tasks, receiving persuasive information from others (e.g., you can do this), and physiological symptoms such as an increased heart rate (Schunk, 1991). Past research has shown that teachers' attitudes play a large role in their students' self-perceptions (Helm, 2007). Teachers' attitudes influence their students' self-perceptions because when the teachers have positive attitudes towards their students, the students feel better about themselves (Canfield, 1990; Erkman et al., 2010; Helm, 2007). However, when the teacher's attitudes are negative, the opposite is true (Canfield, 1990; Erkman et al., 2010; Helm, 2007). This, in turn, impacts the students' academic achievements as well. That is, when students have higher self-perceptions due to their teachers having positive attitudes towards them, they are likely to do better on their academic tasks (Bressoux & Pansu, 2016).

The current study first looked at the impact of perceived teacher attitudes on low-income high school students' academic self-efficacy. Although there were no studies on student academic self-efficacy and the impact teachers' attitudes have on it, Rubie-Davies (2006) conducted a study to determine how teachers' expectations of their students impacted students' academic gains. It was found that their expectations did influence the students' academic self-perceptions (Rubie-Davies, 2006). In the current study, it was found that perceived teachers attitudes had an impact on low-income high school students' academic self-efficacy. These results are in line with Rubie-Davies's (2006) research demonstrating the importance of teachers' attitudes on their students' self-perceptions. This research also has similar results as Bressoux and Pansu (2016) regarding the impact of teachers' judgements on their students' self-worth and self-

perceptions. Overall, this research study confirmed past research studies that demonstrated the importance of teacher attitudes on student self-perceptions even if academic self-efficacy was not used in those studies (Bressoux & Pansu, 2016; Erkman et al., 2010; Helm, 2007; Karwowski et al., 2015; Rubie-Davies, 2006).

Another component of this study was exploring the impact perceived teacher attitudes had on a student's perceived academic achievement. According to Youn (2016), teachers' attitudes towards their students is a great predictor of the students' academic achievements as demonstrated in a study conducted showing teacher attitudes impacted students' math achievement gain in elementary students. Further, Boonen et al. (2014) found that positive teacher attitudes also predicted greater academic achievements in first-grade students. In the current study, the results showed that perceived teacher attitudes did impact low-income high school students perceived academic achievements as well. These results correlate with the previous research studies showing the importance of teacher's attitudes on students' academic achievements (Boonen et al., 2014; Miller, 2008; van Uden et al., 2014; Youn, 2016). However, none of the previous research used high school students as this study did. It is imperative that future research continues to study ways to help high school students as they are at a very vital time in their lives due to making the transition to adulthood. Therefore, this study extends the knowledge to this group of students that has been overlooked for years when it comes to researching the link between teachers' attitudes and student academic achievements.

Finally, in this research study I explored the extent to which academic self-efficacy mediates the relationship between perceived teacher attitudes towards low-

income high school students and their perceived academic achievement, because there were no studies found that examined this connection, which shows how vital this research study was for the advancement of knowledge in this area. The results of this study showed that perceived teacher attitudes and academic self-efficacy do predict perceived academic achievement. However, academic self-efficacy was significant, but perceived teachers' attitudes was not. This shows that academic self-efficacy does fully mediate the relationship between perceived teacher attitudes and perceived academic achievement in low-income high school students. Due to the direct effect of perceived teacher attitudes on academic achievement changing from negative controlling for academic self-efficacy to positive when not controlling for it, there was an inconsistent mediation.

Cross-over suppression occurred due to the pattern in which academic self-efficacy increased in the simple regression with academic achievement when controlling for perceived teacher attitudes, and perceived teacher attitudes decreased and changed sign in the simple regression with perceived academic achievement when controlling for academic self-efficacy. Also, the indirect effect is typically smaller than the total effect; however, this did not occur in this study due to cross-over suppression. I determined that gender was a confounding variable due gender differences found in both academic self-efficacy and perceived academic achievement. Therefore, the mediation analysis was rerun controlling for gender. Once gender was controlled, cross-over suppression was smaller in magnitude, and academic self-efficacy completely mediated the relationship between perceived teacher attitudes and perceived academic achievement as it did previously.

That is, the way the students felt about their teacher's attitudes towards them impacted their self-confidence in their academic abilities, which, in turn, impacted their academic outcomes. These results may indicate that if low-income high school students' academic self-efficacy can be increased through improvements in their teacher's attitudes towards them or through other means such as programs developed to target self-efficacy, their academic achievements may drastically increase as well. Further, this could mean that the academic achievement gap between low and high-income students could begin to close once teachers' attitudes are more positive towards low-income students and the students' academic self-efficacy is increased, causing their achievements to increase also.

It is important to point out that the gender differences found in this study do not coincide with the past literature when it comes academic self-efficacy or other self-perceptions. However, the results are similar when discussing gender differences in academic achievements. In other words, the past literature shows that male students typically have higher self-efficacy or self-perceptions than female students, which is opposite from what this study found. Additionally, the past literature does show that girls usually have higher academic achievements than boys, which this study also found. What is even more interesting is that most of the past literature has once again skipped over high school students as elementary, middle school, and college students were generally used for studies on gender differences in both self-perceptions and academic achievements.

In a study completed on the gender differences in self-efficacy among college students, Fallan and Opstad (2016) found that female students had significantly lower

self-efficacy levels than male students did. Further, Diseth, Meland, and Breidablik (2014) found that self-efficacy levels were lower in female middle school students than they were in males. However, the academic achievements of these same females were higher than the male students (Diseth et al., 2014). Another interesting finding of this study was that as the females got older (comparing 6th and 8th grade students), their self-efficacy and self-esteem levels decreased. This was also found in a study conducted by Cvencek, Fryberg, Covarrubias, and Meltzoff (2017), which showed that students in grades 3-5 had lower self-perceptions (and academic achievements) than the younger students in grades K-2 suggesting that age plays a role in self-perception levels among males and females (Diseth et al., 2014).

When comparing those results to the current study, it would seem that female's self-perception, namely academic self-efficacy, levels begin to increase again when they are in their high school years. This study would need to be conducted again on a larger scale to confirm this across the United States; however, it may be an explanation as to why the females in this study scored higher than males. However, it appears the higher self-efficacy levels may decrease again once these females enter college as D'Lima, Winsler, and Kitsantas (2014) demonstrate in their study showing that female self-efficacy levels were lower than male college students even though female students were more extrinsically motivated than male students were. Thus, future research comparing academic self-efficacy levels of both female and male low-income students in elementary, middle, high school, and college students would need to be conducted to

determine if this is the pattern of self-efficacy levels in female students or if the results of the current study were related to the student's low-income status.

When it comes to gender differences in academic achievement, Voyer and Voyer (2014) completed a meta-analysis to determine the gender differences in academic achievement, and they found that females did significantly better than males did confirming what they explain as the "female advantage in school." Further, Balkis and Duru (2017) found that female undergraduate students scored higher in academic achievement than male students did as well. In addition, they also found that academic procrastination among male students was significantly higher than female students, which may explain lower academic achievement levels in male students (Balkis & Duru, 2017). The past literature confirms the results of the current study that females typically have higher academic achievements than males. However, future research should explore the reasons for the gender achievement gap in order to develop ways to help male students increase their academic achievements. Not only will future research exploring the gender gap in academic achievement benefit low-income high school male students, but it could also benefit all high school male students.

In following with Bandura's (1997a, 1986, 1997) theory regarding academic self-efficacy, receiving persuasive information from others around them, such as their teacher's positive attitudes, impacts the students' academic self-efficacy in a way that allows them to have more motivation and positivity towards their academic endeavors. This then increases the student's perceived academic achievements. The information gained from this research study not only extends the research in the discipline due to it

being the only study of its kind, but it also demonstrates the possibility that there may be another cause for the academic achievement gap between low and high-income high school students in the United States. It also demonstrates that gender may play a larger role in the academic achievement gap than it was thought to. Thus, improving teacher attitudes and academic self-efficacy in low-income high school students, paying particular attention to male students, may improve their academic achievements, which could start closing the academic achievement gap in this population.

Limitations of the Study

There were some limitations in this study. First, because a self-reported survey design was used, there was a possibility that the students did not answer all the questions honestly. This could have occurred due to the possibility that others (e.g., parents, friends) were near them during the time they were completing the online survey. This could have impacted the way they answered each question. Additionally, participant bias could have occurred after reading the assent form due to the belief that they were helping the researcher by providing a specific answer they believed the researcher wanted (Simundic, 2013). There is no way of determining if either of these situations occurred.

Finally, there are generalizability concerns due to the small sample size as the entire low-income high school student population could not be reached due to time and resources available for this dissertation. However, there was a representative sample of low-income high school students from a satisfactory sample size from 18 states although the majority of the students were from Ohio. Results, therefore, cannot be generalized to elementary, middle school, or college students. They also cannot be generalized to high-

income students or those students whose family income is above the low-income guidelines for the free or reduced cost lunch program.

Recommendations

The results of this study provide information on the impact perceived teacher attitudes have on low-income high school student's academic self-efficacy and academic achievement. Based on the findings, future research should be conducted on ways to help teachers develop more positive attitudes towards this population of students. According to past research, teacher's attitudes are mostly negative towards this population of students (Amatea et al., 2012; Canfield, 1990; Helm, 2007; Norman, 2016). It is recommended that future qualitative research is conducted with high school teachers who work with low-income students to explore the specific reasons that may be causing these negative attitudes towards this population. This direction of research could help create a program to help teachers understand the importance of and be more aware of their attitudes and ways in which to improve them when working with low-income students. This could be the first step in improving the vital teacher-student relationship.

Additionally, it is recommended that future mixed-methods research is conducted on low-income high school students to explore ways that would help them increase their academic self-efficacy (aside from their teacher's attitudes improving). Researchers could find ways of developing beneficial programs to help students feel better about their academic abilities, which, in turn, could increase their overall academic achievements. Increasing their academic achievements would not only benefit the students during their high school years, but it could also help them in their transition from high school student

to adult once they graduate. Furthermore, finding ways to increase low-income student's academic achievements through increasing their academic self-efficacy and their teacher's attitudes towards them could also have an impact on the academic achievement gap among low and high-income students in the United States. In fact, this gap could even begin to close if enough programs are in place to help low-income high school students increase their academic self-efficacy, thus, academic achievements across the United States.

Lastly, this research study should be conducted again on a larger scale to determine if female academic self-efficacy is truly higher than males in this population. Also, a study comparing academic self-efficacy levels in males and females in elementary, middle, high school, and college students should be conducted to determine if there is a pattern of self-efficacy levels increasing during the high school years then decreasing again among college students. Finally, future research should explore the gender achievement gap to develop more ways to help increase male students' academic achievements due to them generally having lower academic achievements than female students.

Implications for Social Change

This study is significant because there is a lack of information and research on the mediating effect of academic self-efficacy in the relationship between perceived teacher attitudes and perceived academic self-efficacy in low-income high school students. There is also a lack of information on research from the student's perspective as most of the past research using these variables has focused on the teacher's perspective only. This is

of great concern because it is the students who feel the largest impact from negative teacher attitudes and low academic self-efficacy levels, not high school teachers. This research has provided information to the fields of psychology and education that may be able to guide future research to determine more ways to help low-income high school students. The results of this research can be used to help create better school environments for low-income students by exploring ways to help improve teacher attitudes towards this population; thus, creating a more positive learning environment that the students can enjoy learning in. The results can also be used to create programs to help low-income students improve their academic self-efficacy, which could not only lead to better grades but also increase their chances of being successful after graduation. These students may increase their chances of attending college, attending better colleges, or securing jobs because they will have the education and confidence to achieve their goals.

Furthermore, the results from this research study and the research recommendations that resulted could have a large impact on the academic achievement gap in the United States between low and high-income students. According to the NCES (2016), the academic achievement gap continues to widen, and there has been nothing to remedy this problem since it began to widen. All students in the United States deserve to have a quality education provided to them in the least stressful environment possible. Additionally, low-income students deserve to be equal to their high-income counterparts despite the differences in their parent's income. The results of this research and the recommendations could be the key to successfully closing the achievement gap if

programs are developed and put into place throughout the public-school systems across the United States.

Conclusion

The academic achievement gap in the United States between low and high-income students has continued to widen over the last 50 years (Dickinson, 2016). Although there are numerous professionals who have opinions as to why this gap continues to widen, one thing remains true; there have been no advancements causing the gap to close for any length of time. This is problematic because low-income students deserve the same level of education and opportunities as high-income students do; however, they are not always afforded these things (National Education Association, 2015).

A review of the literature showed that teachers attitudes and student's self-perceptions were predictors of the students overall academic achievement levels. However, no research was conducted on high school students regarding these variables. Further, although there was research on teacher's attitudes and student's self-perceptions, student's self-perceptions and academic achievement, there were no studies on teacher's attitudes and academic self-efficacy or academic self-efficacy and academic achievement. Additionally, there was a lack of studies using low-income high school students with any of these variables. Therefore, it was this lack of information that made it vital to conduct this research study.

Bandura's (1986, 1989) social cognitive, self-efficacy, and academic self-efficacy theories were the foundation of this study to demonstrate the importance of academic

self-efficacy in low-income high school students. That is, Bandura's theories guided the research to validate the importance of increasing the academic self-efficacy levels in low-income high school students. Academic self-efficacy theory also showed why perceived teacher attitudes was so vital in improving academic self-efficacy and perceived academic achievement in low-income high school students.

Using a quantitative research approach, a survey research design was employed to collect data from low-income high school students. Included in the survey was a single question regarding their perceived academic achievement, and both the Classroom Teacher-Student Relationship and Academic Self-Efficacy subscales. Multiple regression was used to analyze the research data to determine if academic self-efficacy mediated the relationship between perceived teacher attitudes and perceived academic achievement in low-income high school students.

The results were statistically significant in that academic self-efficacy fully mediated the relationship between perceived teacher attitudes and perceived academic achievement in low-income high school students. These results are significant because they fill the gap in the literature by providing information to other professionals in the psychology and education fields. Results from this study can be used to conduct future research on ways to improve teacher's attitudes towards their low-income students. It can also be used to research more ways of improving low-income high school student's academic self-efficacy, which could then increase their perceived academic achievements. Thus, they could be more confident and successful in their academic endeavors. Finally, this research can be used to explore the possibility that the academic

achievement gap between low and high-income students in the United States may be partly due to other variables such as negative teacher attitudes, low academic self-efficacy, and poor perceived academic achievement levels in low-income high school students.

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Appendix A: Demographics

Please select an answer for the following 5 questions:

1. Age: __
2. Gender: Male or Female
3. Grade Level: 9 10 11 12 Other
4. Do you qualify for the free or reduced cost lunch program: Yes or No?
5. State: __

Please select a response for the following question:

Item	**Responses** 1	2	3	4	5
What do you feel is your overall academic achievement level?	Poor	Fair	Average	Good	Excellent

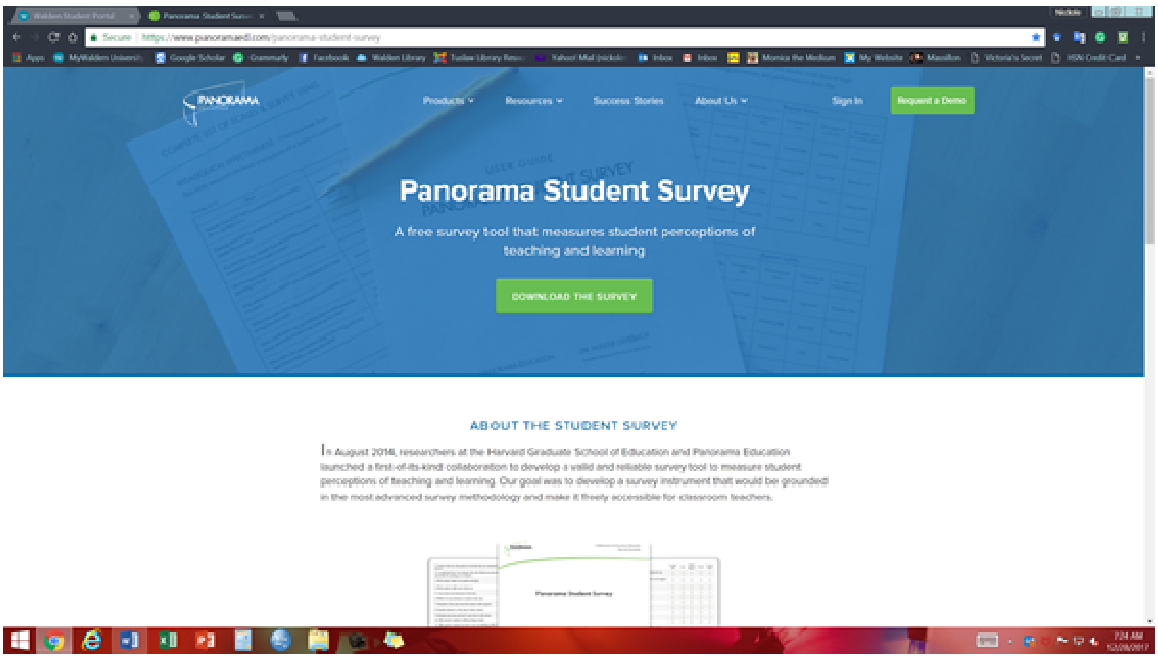
Appendix B: Panorama Student Survey: Classroom Teacher-Student Relationship Subscale

This survey was designed to help understand how strong the connection is between teachers and students from the student's perspective.

Please select one response anchor for each of the five questions.

Item	Response Anchors				
How respectful is this teacher towards you?	Not at all respectful	Slightly respectful	Somewhat respectful	Quite respectful	Extremely respectful
If you walked into class upset, how concerned would your teacher be?	Not at all concerned	Slightly concerned	Somewhat concerned	Quite concerned	Extremely concerned
If you came back to visit class three years from now, how excited would this teacher be to see you?	Not at all excited	Slightly excited	Somewhat excited	Quite excited	Extremely excited
When your teacher asks how you are doing, how often do you feel that your teacher is really interested in your answer?	Almost never	Once in a while	Sometimes	Frequently	Almost always
How excited would you be to have this teacher again?	Not at all excited	Slightly excited	Somewhat excited	Quite excited	Extremely excited

Appendix C: Free Use of Panorama Student Survey



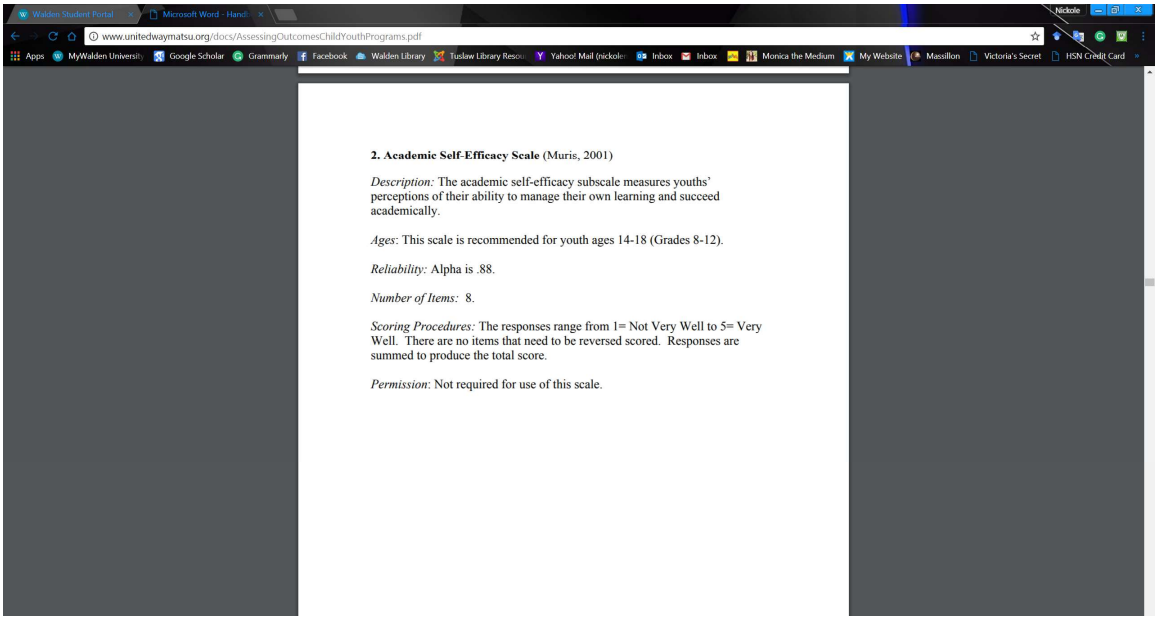
Appendix D: Self-Efficacy Questionnaire for Children: Academic Self-Efficacy Subscale

This survey was designed to measure academic self-efficacy in youths.

Please select the response which best applies to you for each of the eight questions.

	Not at all 1	2	3	4	Very well 5
1. How well can you get teachers to help you when you get stuck on schoolwork?					
2. How well can you study when there are other interesting things to do?					
3. How well can you study a chapter for a test?					
4. How well do you succeed in finishing all your homework every day?					
5. How well can you pay attention during every class?					
6. How well do you succeed in understanding all subjects in school?					
7. How well do you succeed in satisfying your parents with your schoolwork?					
8. How well do you succeed in passing a test?					

Appendix E: Free Use of the Self-Efficacy Questionnaire for Children: Academic Self-Efficacy Subscale



2. Academic Self-Efficacy Scale (Muris, 2001)

Description: The academic self-efficacy subscale measures youths' perceptions of their ability to manage their own learning and succeed academically.

Ages: This scale is recommended for youth ages 14-18 (Grades 8-12).

Reliability: Alpha is .88.

Number of Items: 8.

Scoring Procedures: The responses range from 1= Not Very Well to 5= Very Well. There are no items that need to be reversed scored. Responses are summed to produce the total score.

Permission: Not required for use of this scale.