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Trait Emotional Intelligence, Perceived Discrimination, and Academic Achievement among African American and Latina/o High School Students: A Study of Academic Resilience

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Trait Emotional Intelligence, Perceived Discrimination, and Academic Achievement
among African American and Latina/o High School Students: A Study of Academic
Resilience

By

Nicholas R. Abel

A Dissertation Submitted in Partial Fulfillment of
The Requirements for the Degree of
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This dissertation has been examined and approved by the following members of the
dissertation committee.

Dr. Richard Auger, Advisor

Dr. Karin Lindstrom Bremer

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Dr. Walter Roberts, Jr.

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Abstract

The goal of academic resilience research is to identify factors and processes which lead to academic success among groups of students generally found to be at-risk, including those of African American and Latina/o descent. The present study investigated a possible risk factor (perceptions of discrimination), a possible protective factor (emotional intelligence), and the role of gender in predicting academic achievement (as measured by high school GPA) in a sample ($N = 79$) of African American and Latina/o high school students attending one high school in Minnesota. Through the use of multiple regression, neither emotional intelligence nor perceptions of discrimination was found to be a statistically significant predictor of GPA among the entire sample, although when each gender was considered separately, a significant model for predicting GPA among males did emerge. In addition to these findings and a subsequent discussion, the literature related to academic resilience and the independent variables is presented within, along with implications for educators and recommendations for future research.

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Chapter 1: Introduction

The academic achievement gap between African American and Latina/o students and their White and Asian American peers is a serious issue facing educators in the U.S. (Conchas, 2006; Ladson-Billings, 2006; Noguera, 2001). At the current time, educational researchers are investigating this issue from two primary viewpoints: a deficit based approach, which focuses on the reasons for the continued persistence of the achievement gap, and an academic resilience perspective, which focuses on identifying factors and processes which contribute to academic success in traditionally marginalized groups of students, including those of African American and Latina/o descent (Alfaro, 2009; Morales & Trotman, 2010). Those who operate from the academic resilience perspective pay tribute to the fact that many African American and Latina/o students are succeeding in high school and going on to attend college, earn degrees, and find work in stable, well-paid professions, despite the risk factors associated with their ethnicity (Morales, 2010; U.S. Bureau of Labor & Statistics, 2011; U.S. Census Bureau, 2010a). The goal then, of academic resilience research, is to more fully understand how these students are able to defy the odds and rise above the risk factors which contribute to the poor academic outcomes of so many African American and Latina/o students. To that end, researchers have begun to examine the protective factors present in the lives of successful individuals, as well as the ways in which these factors (and the resilience associated with them) can be cultivated in other members of at-risk groups (Alfaro, Umaña-Taylor, Gonzales-Backen, Bámaca, & Zeiders, 2009; Morales, 2010).

According to Morales (2010), certain protective factors work in the lives of some at-risk students to create academic resilience, which Morales defines as the achievement of academic success despite the presence of risk factors which would make such success an unlikely proposition. As stated by Morales, research into academic resilience is critical in that it focuses on understanding success, rather than failure, and that this approach is an underutilized means of addressing the achievement gap (p. 164).

Although small in comparison to the deficit based research around factors which contribute to the achievement gap and put students at-risk for failure, the literature around academic resilience is growing, and researchers are continuously working to identify individual protective factors, as well as the processes by which these factors work together to mitigate risk and contribute to the academic success of African American and Latina/o adolescents.

The present study was undertaken from an academic resilience perspective in that it not only measured the impact of a risk factor (perceptions of discrimination at school) on the academic achievement of African American and Latina/o adolescents, it also examined the possibility that a protective factor (emotional intelligence) may enhance the academic achievement of these students and at least partially mitigate the negative impacts of the measured risk factor. Specifically, the study tested portions of two frameworks for academic resilience present in the literature: (a) the *Resilience Cycle* offered by Morales and Trotman (2010), which places emotional intelligence at the center of a process whereby protective factors are acquired and utilized by resilient students in the pursuit of academic achievement despite the presence of risk factors related to their

ethnicity, and (b) models of academic resilience suggested by researchers (i.e., Alfaro et al., 2009; Brown & Jones, 2004; Chavous et al., 2008) who have found that individual perceptions of discrimination at school are negatively associated with academic achievement, but that the impact of this relationship can be moderated by other variables.

State of the Achievement Gap

The academic achievement gap (as measured by grades and standardized test scores) between the performance of White and Asian American students and their African American and Latina/o counterparts has been well demonstrated and highly researched (Fryer & Levitt, 2004; Ladson-Billings, 2006; Lee, 2002; Myers, Kim & Mandala, 2004). Results from the National Assessment of Educational Progress (NAEP) indicate that while students from all racial minority groups made gains relative to White students during the period from the 1970s through the mid 1980s, the performance of African American and Latina/o students has leveled off since that time, while the performance of White and Asian American students has steadily increased, thereby returning the achievement gap of the early 2000s to the sizable levels present before 1970 (Lee, 2002).

Scores from the 2011 NAEP indicate that in fourth grade, Asian American students scored higher in reading than any other racial/ethnic group, and that White students outscored African American students by 25 points (on a scale of 0-500) and Latina/o students by 24 points (National Center for Education Statistics, 2011a). Similar gaps are evident in the fourth grade math results, with Asian American students achieving the highest scores, and White students outscoring African American students by 25 points

and Latina/o students by 20 points (National Center for Education Statistics, 2011b). Furthermore, these gaps persist (and in some cases, grow) as students age and move through school, as is evident in the gap between White students and African American students in eighth grade in both reading (25 points) and math (31 points), and between White students and Latina/o students in reading (22 points) and math (23 points; National Center for Education Statistics, 2011a; 2011b). As was the case with the fourth grade NAEP, Asian American students outscored all other racial and ethnic groups in both reading and math in eighth grade.

African American and Latina/o students also lag behind their White and Asian American counterparts on various measures of academic success throughout high school and beyond. The annual high school dropout rate clearly illustrates the impact of the achievement gap, with Latina/o students dropping out most frequently (15.1%), followed by African American students (8%), White students (5.1%), and Asian American students (4.2%; National Center for Education Statistics, 2012). As will be discussed below, the negative effects of dropping out are felt not only by the individuals themselves, but also by their families, communities, and society as a whole (Murray & Naranjo, 2008).

In terms of academic achievement during high school, results of the ACT college entrance examination show that in 2011, Asian American students achieved the highest mean composite score (23.6), followed by White students (22.4), Latina/o (18.6) students, and African American students (17.0; ACT, 2011). This trend of underperformance by African American and Latina/o students has led to consistently lower rates of college enrollment (National Center for Education Statistics, 2011d) and

completion (U.S. Census Bureau, 2012) by these students when compared with persons from White or Asian American backgrounds.

Rationale for Research

Given the state of education in the U.S. as illustrated by the size and scope of the achievement gap at the elementary, middle, and high school levels, it is critical for educational researchers to identify ways in which families, communities, and school personnel can ensure the success of all students, regardless of racial background. There are a variety of reasons to study the achievement gap, including the basic moral imperative, the economic impact, and the high social costs associated with the low achievement of African American and Latina/o students.

Moral imperative. According to Ladson-Billings (2006), this nation must address the achievement gap simply because it is the “equitable and just thing to do” (p. 9). As a society, America prides itself on doing what is right and moral, and yet, the injustice of the achievement gap has been allowed to fester for many decades. As easy as it is to make the argument of a moral imperative in theory, it becomes difficult to do so in practice, as the debt owed to marginalized peoples in the U.S. is so often recognized only in the form of paying tribute to heroic individuals, rather than working to actually repay entire groups who have been wronged. As Ladson-Billings put it, “We have no trouble recognizing that we have a moral debt to Rosa Parks, Martin Luther King, Cesar Chavez, Elie Wiesel, or Mahatma Gandhi. But how do we recognize the moral debt that we owe to entire groups of people?” (p. 8).

Instances where a great moral debt was owed to groups of people throughout history abound. According to Ladson-Billings (2006), most individuals would acknowledge the need to recognize and repay (in some manner) the debt Germany owed to the newly formed state of Israel following the Holocaust; the debt owed to Japanese Americans following their internment by the government during World War II; and the debt owed to the victims (and their descendants) of the medical experiments carried out by the government for over 40 years in Tuskegee, Alabama. If these injustices can be recognized, and remuneration given in the form of monetary repayment, apologies by governments, and changes to law, both national and international, how can the U.S. not recognize and act to reverse an injustice so great as the achievement gap? As Randall Robinson (2000) stated:

No nation can enslave a race of people for hundreds of years, set them free bedraggled and penniless, pit them, without assistance in a hostile environment, against privileged victimizers, and then reasonably expect the gap between the heirs of the two groups to narrow.

Lines, begun parallel and left alone, can never touch. (p. 74)

It is obvious that such a situation requires a response on behalf of the marginalized people of that society, if for no other reason than it is the right thing to do.

Economic impact. If the moral imperative to close the achievement gap is not enough, then perhaps educators and policymakers in the U.S. will respond to arguments based on the economic and social costs of inaction. According to McKinsey and Company (2009), the achievement gap between African American and Latina/o students

and their White peers has had a massive negative economic impact on the US economy over the years. By their calculations, the US gross domestic product (GDP) could have been up to \$525 billion higher than it was in 2008 had the achievement gap been closed in 1998. Stated another way, in just 10 years' time, the US GDP could have been 3.6% higher based solely on improving the academic performance of African American and Latina/o students. The time to act is now, said McKinsey and Company (2009), as the economic cost of the continued achievement gap will only grow heavier as African American and Latina/o students continue to make up a progressively larger proportion of the US school population in the coming decades.

Social costs. As indicated above, African American and Latina/o students drop out of high school at rates far higher than their White and Asian American peers (National Center for Education Statistics, 2012). In addition to the economic costs to the nation which are associated with diminished earnings power, failure to complete high school also comes with a variety of costs to local municipalities in the form of increases in crime (Harlow, 2003; Levin, Belfield, Muenning, & Rouse, 2007) and the need for government funded social services (Baum & Ma, 2007). The statistics on the relationship between crime and the failure to complete high school are staggering. According to Harlow (2003), approximately 75% of state prison inmates did not earn a high school diploma. Research by Moretti (2005) showed that by increasing the graduation rate of males by only 10%, the U.S. would see dramatic declines in murder (20%), motor vehicle theft (10%), and arson (8%). An increased graduation rate of only 5% would save the U.S. \$4.9 billion dollars annually in crime-related costs (Alliance for Excellent

Education, 2006). In terms of costs for social services, the Alliance for Excellent Education (2006) reported that individuals who drop out of high school participate in government funded programs like Medicaid, free or reduced price school lunch, and food stamps at higher rates than do those with more education. Baum and Ma (2007) reported that in 2005, 34% of high school dropouts lived in a household which utilized Medicaid services, as compared with 6% of college graduates.

Cost to individuals. According to Ogbu (1987), the failure of U.S. schools to educate African American and Latina/o students, coupled with the discrimination and biases they face outside of school, has led to high levels of discouragement within individual members of these groups. Take, for example, the story shared by Fordham and Ogbu (1986) of a young African American man who remembers being accused by his 5th grade teacher of plagiarizing an essay on the life of squirrels. Because such incidents were commonplace in his educational journey, the young man vividly remembered making a decision to forget about school and simply never try again. Individual stories of frustration, anger, and exasperation abound (see Conchas, 2006; Gayles, 2005; Noguera, 2001). While the achievement gap is fundamentally a failure by the nation's schools to effectively educate certain groups of students, its byproduct is masses of individual African American and Latina/o students who are disproportionately placed in remedial and special education classes (Noguera, 2001), do not feel cared about or supported by their teachers (Mickelson, 1990; Noguera, 2001), do not believe that education will pay off for them in a biased society (Mickelson, 1990; Ogbu, 1987), and who ultimately drop out of school at rates far higher than their peers from other ethnic

backgrounds (National Center for Education Statistics, 2012). For these students, the costs of the achievement gap are far higher than what can be expressed in terms of whole group statistics.

Statement of the Problem and Purpose for the Study

A preponderance of the research to date with regard to the achievement gap has focused on the reasons for its existence and persistence. In response to this, some researchers have taken on an academic resilience perspective in studying the traits and processes which have worked in the lives of some students of color to facilitate academic success. That said, research to date has not uncovered enough of these protective factors, nor has a comprehensive theory of academic resilience been established. This study contributed to the academic resilience literature by examining the role of perceived discrimination on the basis of ethnicity as a risk factor in the lives of African American and Latina/o high school students, while also studying the possibility that trait emotional intelligence (EI) may serve as a protective factor for these students with regard to their academic achievement (as measured by GPA). EI refers to “a constellation of *behavioral dispositions* and *self-perceptions* concerning one's ability to recognize, process, and utilize emotion-laden information” (Petrides et al., 2004, p. 278) and has sometimes been referred to as emotional self-efficacy (Petrides & Furnham, 2001), or what one believes about his or her ability to perceive and make use of emotions. As will be discussed below, some researchers have found a link between EI and academic achievement (Agnoli et al., 2012; Di Fabio & Palazzeschi, 2009; Parker, Creque et al., 2004; Parker, Summerfeldt, Hogan, & Majeski, 2004; Petrides, Frederickson, & Furnham, 2004;

Schutte et al., 1998; Van Der Zee, Thijs, & Schakel, 2002), and some academic resilience researchers have speculated that EI may play an important role in the academic achievement of African American and Latina/o students (Morales & Trotman, 2010).

In addition to studying the variables above, the role of gender in these processes was also explored. In my review of the literature, I did not come upon a study which considered all of these variables simultaneously. In that way, the study contributed to the literature around academic achievement among African American and Latina/o adolescents in four primary ways: (a) by providing more empirical evidence regarding the link between individual perceptions of discrimination and academic achievement; (b) studying the possibility that EI serves as a protective factor which enhances the academic achievement of African American and Latina/o students; (c) studying the possibility that EI specifically enhances the academic achievement of these students by moderating or providing a “buffer” against the detrimental effects of perceived discrimination; and (d) exploring the role of gender in these processes.

As is the case with all studies which are cross-sectional in nature, and which rely on surveys to collect data, the findings of the study must be interpreted in light of a variety of limitations, including the fact that causality cannot be determined in a correlational study which is neither experimental nor longitudinal in design, as well as the possibility that participants may have responded to the survey questions in ways which they perceived to be socially acceptable, rather than in ways which accurately represent their reality. A formal discussion of these limitations is included in Chapter 5.

Research Questions

1. To what extent do emotional intelligence and perceptions of discrimination at school predict grade point average (GPA) among a sample of African American and Latina/o high school students in a suburb of Minneapolis, MN?
2. Does emotional intelligence moderate the relationship between individual perceptions of discrimination and GPA among the sample? If so, to what extent?
3. Is there a significant difference, by gender, in the degree to which African American and Latina/o high school students attending a high school in suburban Minneapolis, MN perceive discrimination at school?
4. Does gender moderate the relationship between individual perceptions of discrimination and GPA among a sample of African American and Latina/o students attending a high school in suburban Minneapolis, MN? If so, to what extent?

Definition of Relevant Terms

Academic resilience: “Process and outcome of students who, despite coming from statistically ‘at-risk’ backgrounds, *do* succeed academically” (Morales & Trotman, 2011, p. 1). Academic resilience researchers seek to understand why and how some members of traditionally marginalized groups are able to achieve academic success despite the many risk factors they face.

Academic success: For the purposes of this study, academic success is operationalized as cumulative high school grade point average (GPA).

African American: An ethnicity which includes “segments of the American population

referred to as ‘black’ or Americans of sub-Saharan African ancestry” (Airhihenbuwa & King, n.d., para. 1). While it is recognized that the African American ethnicity is comprised of a variety of diverse subgroups, each of which has a unique cultural history, public entities and government agencies (such as public schools) are required to report race in terms of the categories prescribed by the U.S. Census Bureau (2010b). As such, any student identified in school records as “Black” are counted as African American for the purposes of this study.

Discrimination: Discrimination is defined by “harmful actions towards others because of their membership in a particular group” (Fishbein, 1996, p. 7). With regard to ethnicity, discrimination comes in a variety of forms, from overt and intentional individual acts of discrimination, to covert and unintentional forms of institutional discrimination (Brown & Bigler, 2005).

Ethnicity: Ethnicity is the categorization of human beings on the basis of shared historical, geographic, and cultural backgrounds, rather than on the basis of physical characteristics. According to Schermerhorn (1978), ethnicity is “A collectivity within a larger society having real or putative ancestry, memories of a shared historical past, and a cultural focus on one or more symbolic elements defined as the epitome of their peoplehood” (p. 12). The guidelines first put forth by the United Nations Economic and Security Council (Metraux, 1950), the term ethnicity is used in place of “race” throughout this study due to the imprecise

nature and definition of the latter, as well as errors in interpretation which frequently occur when the term race is used (Metraux, 1950, p. 142-143).

Gender: Gender refers to the “socially constructed roles, behaviours, activities, and attributes that a given society considers appropriate for men and women” (World Health Organization, n.d., para. 3), while sex refers to “biological and physiological characteristics that define men and women” (World Health Organization, n.d., para. 2). The term gender is used throughout this study since any measured behavioral differences between male and female participants are attributed to socialization and differences in societal treatment and interpersonal style rather than to biological predestination.

Latina/o: An ethnicity which includes “any American whose ancestry includes people of Spanish, Mexican, or Central or South American origin” (Ramirez & Suarez, n.d., para. 1). While it is recognized that the Latina/o ethnicity is comprised of a variety of diverse subgroups, each of which has a unique cultural history, public entities and government agencies (such as public schools) are required to report race in terms of the categories prescribed by the U.S. Census Bureau (2010b). As such, any student identified in school records as “Hispanic” are counted as Latina/o for the purposes of this study.

Race: Race is a socially-constructed system for categorizing human beings based on the presence or absence of certain physical characteristics. According to Cornell and Hartmann (2006), “Determining which characteristics constitute the race... is a choice humans beings make, and it is the reason some social scientists put ‘race’

in quotes. Neither the categories themselves nor the markers we choose are predetermined by biological factors” (p. 25).

Trait Emotional Intelligence: Trait EI refers to “a constellation of *behavioral dispositions* and *self-perceptions* concerning one's ability to recognize, process, and utilize emotion-laden information” (Petrides et al., 2004, p. 278) and has sometimes been referred to as emotional self-efficacy (Petrides & Furnham, 2001), or what one believes about his or her ability to perceive and make use of emotions.

Chapter 2: Literature Review

The achievement gap is a serious issue which threatens both the social and economic well being of the United States. While tackling the gap may seem overwhelming, one means of doing so that has slowly been gaining traction in the literature is academic resilience research. This area of the literature focuses on factors and processes which contribute to the academic success of students who would otherwise be considered “at-risk” for academic failure due to ethnicity, socioeconomic status, or other risk factors that have been identified as potentially damaging to the academic achievement of children and adolescents. In the spirit of academic resilience research, this chapter is designed to begin and end from a strengths based perspective, starting with an overview of the existing theories of academic resilience, followed by an examination of risk factors which threaten the academic achievement of African American and Latina/o students, and concluding with a look at protective factors which might serve to protect these students and enhance their chances for academic success.

Theories of Academic Resilience

As will be discussed below, researchers have begun making headway in the quest to identify factors which may be related to academic resilience in African American and Latina/o adolescents. That said, research to date has generally stopped with the identification of factors which exist in isolation, and has therefore not produced much in the way of concrete theories of resilience which have been empirically tested on samples

of these students (Morales, 2010). Theories which have been proposed are presented below.

Morales: Protective factor clusters. In discussing the shortcomings inherent in simply identifying protective factors present in resilient youth, Morales (2010) stated that such an approach often fails when it comes to providing “an understanding of, and appreciation for, the process...and the specific relationships between and among the various protective as well as risk factors” (p. 165). As such, Morales recommends against studying factors in isolation, and instead advocates studying groups of factors together and formulating hypotheses about how they impact one other, and ultimately, how they lead to the development or maintenance of academic resilience in students of color. The work of Morales is an attempt to do just that, as it provides a two cluster model of academic resilience among diverse adolescents. The first cluster of factors found to be working together in the lives of the participants is labeled by the researcher as “It’s okay to be smart: skillful mentoring for future success.” Within this cluster, the author identifies five individual protective factors (willingness/desire to “class jump” to a higher socioeconomic class; caring school personnel (K-12); caring school personnel (college); sense of obligation to one’s race/ethnicity; strong future orientation) working together to foster this attitude in resilient youth: it is okay be smart, enjoy school, and want to achieve success in the future—and doing well in school is one way to accomplish that. While each of these factors in isolation may also be important to academic success, Morales argues that it is the confluence of these factors in the lives of these youth that promotes resilience.

The second cluster identified by Morales (2010) is named “Pride, debt, effort, and success: becoming someone.” In this cluster, Morales identified variables related to being hard working, persistent, and raised by families in which members are willing to make sacrifices in order to facilitate academic success for their children. The individual factors identified include strong work ethic, persistence, high self-esteem, internal locus of control, attending a school outside the normal boundaries, high parental expectations supported by words and actions, and mother modeling strong work ethic. Again, while each of these factors in isolation may be important to academic resilience in some small way, it is Morales’ belief that the combination of these factors working together in the students’ lives is what fosters academic success. Although not explicitly stated, it would seem that Morales believes a model of academic resilience can be extrapolated from these results—a model which begins with a few of these traits/characteristics and becomes stronger as more factors are added and found to be working together in clusters.

Morales and Trotman: Resilience cycle. As indicated above, Morales (2010) has frequently commented that academic resilience research has focused too much on the identification of individual protective factors, rather than on the explication of the processes whereby these factors work to mitigate risk and create academic resilience. In response, Morales and Trotman (2010) put forth a model of academic resilience called the “resilience cycle” (see Figure 1). In this model, the researchers speculate that academic resilience consists of five “spokes” (each of which makes a unique contribution to the resilience process) circulating around a “hub” of emotional intelligence, which Morales and Trotman propose as the unifying characteristic which allows academically

resilient students to navigate the resilience cycle. The academic resilience cycle is both sequential, in that each spoke (or step) is achieved in order, and cyclical, in that it repeats itself each time a student is faced with a new type of challenge or risk factor. In this way, the model “evolves along with students’ changing circumstances” (p. 17).

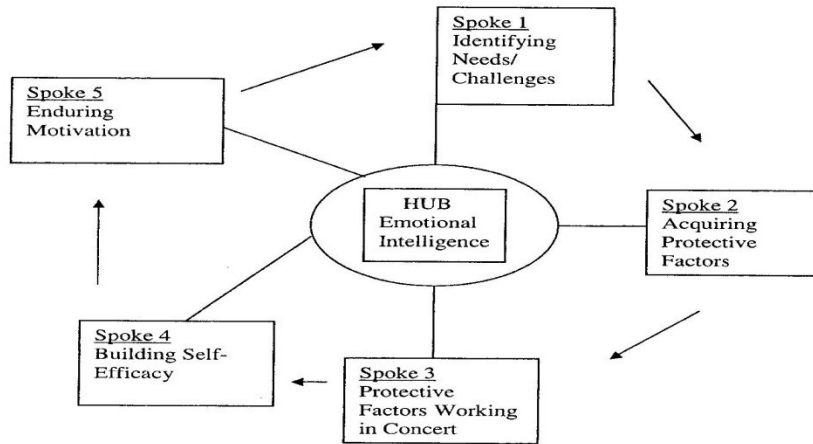


Figure 1. The Academic Resilience Cycle (Morales & Trotman, 2010)

Brown and Jones: Future temporal orientation. Future temporal orientation (FTO) has been proposed as an important factor in the study of academic resilience (Brown & Jones, 2004; Morales, 2010). In studying the issue, Brown and Jones (2004) discovered that FTO is part of a complex three step process which they argued may be critical to the academic achievement of African American adolescents in particular. The process identified in their study began with FTO, which they found to be correlated with perceptions of educational contingency (or a student’s feelings about the usefulness of school), which was then in turn associated with valuing academic work, which was then in turn associated with higher grades. Furthermore, the authors found that the relationship between educational contingency and valuing academic work was moderated by a student’s perceptions of minority status in the school. Far from a simple correlation

between FTO and positive academic outcomes, what Brown and Jones suggested is a model wherein FTO facilitates other factors which more directly impact a student's grades, such as beliefs about the importance of school and the value placed on academic work, some of which can be moderated by other factors. Research along these lines might test this model and/or search for other stepwise relationships or paths to academic resilience, along with moderating factors which impact relationships along the way.

Martin: Motivation "boosters" vs. "guzzlers." Martin (2002) proposed a model of academic resilience predicated on the belief that certain factors serve to increase or "boost" student motivation to succeed in school, while other factors serve to reduce or "guzzle" motivation. Although much more complicated processes are hypothesized to be at work in shaping student motivation, Martin argued that this fairly simple model provides an easy way for educators to understand academic resilience, which in turn makes it easier to explain the model to students as a first step towards intervention. Although Martin's model is based on his understanding of the literature around academic resilience in the general student population of Australia, it would seem that the model could be easily adjusted to suit the needs of educators and researchers in the U.S. through a simple substitution of protective factors or processes and risk factors which are known to be motivation boosters or guzzlers among one's population of interest.

Martin and Marsh: Five "Cs" model. Martin and Marsh (2006) proposed a model they refer to as the "5-C" model of academic resilience based on their study of a large sample of 11th and 12th grade students in Australia. The five factors (or "Cs") which they found to predict academic resilience among their sample were: confidence

(self-efficacy), coordination (planning), control, composure (low anxiety), and commitment (persistence). While the model was not developed in the U.S. or through the study of African American or Latina/o students, the 5-C model may warrant further study among these populations, with the key research question being, “how do these characteristics foster academic resilience in students of color?”

Martin and Marsh: Academic “buoyancy” vs. academic resilience. Martin and Marsh (2009) also proposed the idea that some factors may not contribute much to a model of academic resilience (a construct they conceptualize as being long term protection from large scale or ongoing risk factors), but may play an important role in short term academic buoyancy (the ability to respond to and overcome the small, short term “ups and downs” which most students are faced with in school at some point). The idea that two separate processes are at work in protecting students from academic failure could begin to explain some of the divergent findings with regard to research examining the presence of certain protective factors among African American and Latina/o adolescents. Such a viewpoint on the issue also highlights the importance of identifying protective factors which are enduring, and which play a role in long term resilience.

Risk Factors

A variety of risk factors threaten the academic achievement of African American and Latina/o students. While a thorough examination of each of these factors is beyond the scope of this study chapter, a brief overview of three factors commonly cited in the literature appears below (education debt, school funding, and teacher quality), followed

by an in depth look at the literature regarding the impact of discrimination on academic achievement.

Education debt. According to Ladson-Billings (2006), the achievement gap as measured by grades, test scores, and dropout rates, is simply a byproduct of the larger “education debt” which has been accumulating in the U.S. for hundreds of years.

Ladson-Billings argued that the education debt is the sum of the historical injustices done to African American, Latina/o, Native American, and other marginalized groups in the U.S., the combination of which have made it virtually impossible for members of these groups to compete educationally with their White peers without a drastic shift in how the nation’s education system works. Laws which forbade enslaved Africans to read, and later, to attend the same schools as White students would be an example of one such injustice. The removal of Native Americans children and adolescents from their families, and their subsequent “reeducation” in tribal schools would be another example.

Furthermore, Ladson-Billings argued that actions taken by those in power over the years to bar minorities from access to the legislative system and, as a result, from influencing the governing bodies which oversee their children’s schools, has only perpetuated these cycles. This argument is perhaps best summed up in remarks made by President Lyndon B. Johnson in a 1965 address at Howard University, when he stated that “You cannot take a man who has been in chains for 300 years, remove the chains, take him to the starting line and tell him to run the race, and think that you are being fair” (Miller, 2005). Clearly, the historical marginalization of African American and Latina/o people in the

U.S. puts them at-risk for decreased academic achievement when compared to their historically more privileged White counterparts.

School funding. As stated in a report by McKinsey and Company (2009), “schools in poor neighborhoods tend to have far less funding per pupil than do schools in wealthier districts, a degree of inequity not seen in other advanced nations” (p. 21). Examples of this trend abound across the U.S. According to Ladson-Billings (2006), the Chicago Public Schools (87% African American and Latina/o population) spend about \$8,500 annually per pupil, while the nearby Highland Park schools (90% White) spend over \$17,000. In Philadelphia, city schools (79% African American and Latina/o) spend roughly \$9,300 per pupil, while Lower Merion (91% White) spends over \$17,000. The New York City Public School system spends a little under \$12,000 per pupil (72% African American and Latina/o), while suburban Manhasset spends over \$22,000 (91% White).

Teacher quality. The issue of school funding is also intimately related to teacher quality, which is another risk factor for African American and Latina/o youth. According to McKinsey and Company (2009), schools in the U.S. generally assign their least experienced and most unqualified teachers to classrooms filled with poor students of color, oftentimes because more affluent school districts can offer better pay and working conditions to teachers than can poorer districts which serve a higher proportion of African American and Latina/o students (p. 21).

Discrimination.

One risk factor which appears frequently in literature regarding the achievement gap is discrimination. Discrimination has been defined as “harmful actions towards others because of their membership in a particular group” (Fishbein, 1996, p. 7). While this definition may seem quite simple, discrimination is a complicated and multifaceted phenomenon. With regard to ethnicity, discrimination comes in a variety of forms, from overt and intentional individual acts of discrimination, to covert and unintentional forms of institutional discrimination (Brown & Bigler, 2005). Unfortunately, discrimination based on ethnicity is a regular and significant part of life for many students of color in the U.S. (Conchas & Noguera, 2004; Fisher, Wallace, & Fenton, 2000; Greene, Way, & Pahl, 2006; Phelan, Yu, & Davidson, 1994; Rosenbloom & Way, 2004; Wong, Eccles, & Sameroff, 2003). Brown and Bigler (2005) found that by the age of 10, children can understand and recognize both overt and covert forms of discrimination, and that this ability begins developing as early as age 5 or 6. The negative impacts of discrimination on the psychological well-being of ethnic minority adolescents are far reaching and range from decreased self-esteem (Greene et al., 2006; Wong et al., 2003) to increased anger (Wong et al., 2003), stress (Fisher et al., 2000), depressive symptomatology (Greene et al., 2006; Wong et al., 2003), and problem behaviors (Wong et al., 2003).

At the theoretical level, discrimination is often implicated as one factor which plays a large role in the academic underachievement of African American and Latina/o youth (Brown & Bigler, 2005). The connection is an easy one to make; given the many harmful effects of discrimination which have been well established in both adult and

adolescent samples (Brodish et al., 2011; Fisher et al., 2000; Ogbu, 1987; Steele & Aronson, 1995; Wong et al., 2003) it stands to reason that the detrimental effects of discrimination might also be manifested at school in the form of decreased academic achievement. While this assumption may be valid, few studies to date have empirically tested the link between discrimination and the actual academic outcomes of high school students, and even fewer explanations have been offered as to how and why this relationship operates. The two most common theories in this regard are the socio-historical and anthropologic viewpoint put forth by Ogbu (1987) and the concept of stereotype threat studied by Steele and Aronson (1995). In offering these theories, both researchers discuss ways in which discrimination at the institutional or societal level manifests in the academic achievement of students of color.

According to Ogbu (1987), minorities in the U.S. can be divided into two types: voluntary minorities who immigrated to the country of their own accord (most, but not all, European American and Asian Americans fall into this category) and involuntary minorities who have historically been assigned the lowest levels of social status in the U.S. due to a history of being brought into the country through slavery or colonization (African American, Native American, Native Hawaiian, and Latina/o persons fall into this category). Over the course of many decades, involuntary minorities have become aware of the fact that education is unlikely to pay off as much for members of their groups as it does for White Americans or members of voluntary immigrant groups due to the inevitable institutional barriers and discrimination they will face at every step of the search for better education and employment opportunities. Ogbu described this barrier to

vocational and monetary equity as a “job ceiling,” and asserted that involuntary minorities are well aware of its existence, having watched family and community members struggle to gain access to certain jobs or levels of pay, only to be denied these opportunities due to cultural differences or outright discrimination. According to Ogbu, this perpetual cycle of frustration has led to widespread disengagement from education among members of involuntary minority groups. If there is no payoff for education, Ogbu stated, then why bother?

Related to this idea is the oft cited finding that when compared to their White peers, many more African American and Latina/o students will profess a strong belief in the power of education to improve their lives, when in actuality, their effort and achievement at school will oftentimes not match these beliefs (Mickelson, 1990; Ogbu, 1987). Mickelson (1990) referred to this conundrum as the *attitude-achievement paradox*; students profess positive attitudes towards school, but their achievement simply does not match it. According to Mickelson, this is because African American students (and by association, Latina/o students, as according to Ogbu these two ethnic groups occupy the same social caste in U.S. society) have two types of beliefs about the value of education: *abstract* beliefs, which are characterized by typical American egalitarianism (i.e., “education is the key to success in the future”) and *concrete* beliefs, which are grounded in actual life experience (i.e., “people in my family haven’t been treated fairly at work no matter how much education they have”).

It is concrete beliefs which seem to refer back to the “job ceiling” described by Ogbu (1987) which prevents members of marginalized groups from actually obtaining

the education, jobs, and monetary security they desire. Mickelson (1990) tested this hypothesis in a sample of over 1,000 high school seniors in Los Angeles and found that indeed, when compared to White students, African American high school students had much higher abstract beliefs, but significantly lower concrete beliefs with regard to the utility of education. Furthermore, it was students' concrete beliefs which predicted academic success, while abstract beliefs played no role. This finding lends support to the hypotheses of Ogbu (1987) and Mickelson (1990) that historical institutional discrimination is related to the academic underachievement of students of color. While it is recognized that these theories were formulated over 20 years ago, they are still frequently cited in the achievement gap literature and do seem to resonate with what researchers are observing today.

Another theory regarding how discrimination manifests in academic underachievement among students of color was put forth by Steele and Aronson (1995) in their study of stereotype threat. According to Steele and Aronson, certain stereotypes exist in the U.S. regarding the intellectual abilities of members of different ethnic groups. The theory of stereotype threat posits that students are unconsciously aware of these stereotypes and allow society's view of their group to influence their effort and performance on certain academic tasks for fear of confirming those stereotypes. Steele and Aronson speculated that stereotype manifests in academic situations in two ways: (a) by causing anxiety and (b) by narrowing the attention of students to the task at hand due to their attempts to block thoughts of the stereotype. Steele and Aronson confirmed the presence of stereotype threat in African American college students in a variety of

experiments over the course of several years, each time discovering that the mere hint of a task being tied to innate intellectual ability was enough to negatively impact the performance of African American, but not White, students on various experimental tasks, even after controlling for the actual intellectual ability of these students (SAT scores). In interpreting these results, Steele and Aronson pointed to the possibility that such a condition might not only lead to poorer performance on important academic tasks which purport to measure intellectual ability (i.e., standardized measures like the SAT), but may also cause African American students to disengage from academics over the long term in order to protect themselves from repeated exposure to stereotype threat.

While the theories above have been important in enhancing our understanding of how discrimination on the macro level is related to the academic achievement of minority students, they do not account for the variability in the performance of students in these groups—that is, they do not address the question of why some African American and Latina/o students do better in school than others. Instead, approaches such as the above paint these groups with a broad brush, and in attempting to explain the larger achievement gap, somewhat inadvertently assert that all African American and Latina/o youth are suffering from the effects of macro level discrimination. As such, authors such as Neblett, Cogburn, and Sellers (2006) have pointed out the importance of measuring variables at the individual, micro level in order to more effectively pinpoint factors which might account for the wide degree of variability in the academic achievement of minority adolescents. Such a viewpoint is in line with the academic resilience perspective which calls for more study into factors which account for the success of some African American

and Latina/o students and their peers, rather than attempting to explain the larger gap between these students and White and/or Asian American students. To that end, rather than ignore the potential impact of discrimination on minority students, it would seem prudent to instead examine the literature regarding how individual perceptions of discrimination on a smaller scale might impact academic achievement.

Qualitative research has provided social scientists with much of their understanding about how adolescents experience discrimination at school. Phelan et al. (1994) studied an ethnically and academically diverse ($N = 55$) group of students at four high schools in California, interviewing each student four times over course of two years. Many themes related to discrimination emerged from these interviews, with 36% of the students indicating that they had been “picked on” by teachers or other adults due to their race, religion, or other personal attribute, and 35% indicating that they had been discriminated against or “devalued” because of their culture, language, or ethnicity. According to Phelan and colleagues, the “tension and stress resulting from racist and hostile comments diverts students' attention away from academic goals” (p. 440).

Rosenbloom and Way (2004) conducted in depth interviews with 60 ethnic minority students in an urban high school and discovered that both adult and peer relationships were marked by a complicated web of intra and intergroup discrimination. In particular, Rosenbloom and Way reported that African American and Latino/a students were frequently discriminated against by adults, both in school and in the community, and that one form of discrimination commonly reported by these students was low teacher expectations—a subtle form of discrimination which has been noted elsewhere in

the literature (Conchas & Noguera, 2004; Farkas, Grobe, Sheehan, & Shuan, 1990; Ladson-Billings, 1994).

A handful of studies have also attempted to quantitatively measure the presence and impact of discrimination at school among samples of African American and Latina/o adolescents. Martinez, DeGarmo, and Eddy (2004) found that about 50% of the Latina/o students they surveyed reported experiencing discrimination at school for being Latina/o or witnessing this kind of discrimination happening to someone else. When analyzed in conjunction with other institutional barriers to achievement (decreased levels of school satisfaction and unwelcoming experiences), Martinez and colleagues reported that these discrimination experiences directly predicted GPA in these students. Along these same lines, Greene et al. (2006) conducted a 3-year longitudinal study of 225 students in an urban high school and found that ethnic minority students (including African American and Latino/a youth) reported significant levels of discrimination by both adults and peers, and that this discrimination was associated with a variety of negative outcomes such as decreased self-esteem and increased depressive symptoms. While the study did not include academic achievement as an outcome variable, Greene and colleagues stressed the importance of including a measure of perceived discrimination in studies related to the development and well being of ethnic minority adolescents and called for more study into possible moderators of discrimination on a variety of outcomes.

Fisher et al. (2000) surveyed students in a diverse, urban high school ($N = 177$) and found that discrimination by both peers and adults caused high levels of stress for these students. African American and Latina/o students in particular perceived high

levels of discrimination by adults, with over half of the sample reporting that adults viewed them as dangerous or not smart due to ethnic bias. When compared with other ethnic groups, the African American and Latina/o students also reported being wrongly disciplined in school more frequently due to their ethnicity. While GPA and other measures of academic achievement were not collected, Fisher and colleagues did find that many African American (32%) and Latina/o (38%) students reported being discouraged from taking advanced classes and receiving low grades due to ethnic discrimination.

While the presence of perceived discrimination at school seems to have been well demonstrated among samples of African American and Latina/o adolescents, only a small number of studies have attempted to directly test the relationship between perceptions of discrimination and academic achievement. In an early study on the matter, Neblett et al. (2006) found that perceptions of discrimination negatively predicted all three academic outcomes measured (self-reported GPA, academic curiosity, and academic persistence) among a sample of 548 African American students in grades 7 to 10. Like Greene et al. (2006), Neblett and colleagues recognized the need to study factors which might mitigate the harmful effects of discrimination, and as such, also included a measure of race socialization (i.e., parent messages about race) in their study. Although no moderating relationship was detected in the sample, Neblett and colleagues called for more study on both the relationship between discrimination and academic achievement, as well as protective factors which might impact the strength of this relationship.

Several studies investigating the link between perceived discrimination and academic outcomes have made use of a large data set from the Maryland Adolescents Development in Context Study (MADICS). This longitudinal study headed by Eccles, Sameroff, and colleagues collected data from almost 1,500 families in a large metropolis in the Eastern United States in five waves over a period of seven years (detailed study information can be found at <http://www.rcgd.isr.umich.edu/pgc/home.htm>). Using data collected from African American students during two waves of the MADICS study (prior to 7th grade and at the conclusion of 8th grade), Wong et al. (2003) found no direct correlation between the academic achievement (measured by GPA) of African American adolescents and their perceptions of discrimination by peers and teachers. That said, Wong and colleagues did report a variety of other negative relationships between perceptions of discrimination and variables closely related to academic achievement, such as academic motivation, self-competency beliefs, and self-esteem. Furthermore, discrimination was positively associated with several damaging psychological outcomes such as anger, depressive symptoms, and problem behaviors at school.

Chavous, Rivas-Drake, Smalls, Griffin, and Cogburn (2008) also used the MADICS data set to analyze the relationships between school discrimination (both classroom/teacher and peer/social) and the academic outcomes of African American 8th and 11th graders. In contrast to the findings of Wong et al. (2003), Chavous and colleagues did report several direct correlations between discrimination and academic achievement, primarily as a result of considering the impact of two different types of discrimination separately (teacher/classroom vs. peer/social) and by testing for the

moderating effect of gender. Among male participants, Chavous and colleagues reported several especially strong links between discrimination and academic outcomes. For example, elevated ratings of classroom/teacher discrimination in both 8th and 11th grade were significantly negatively associated with GPA and student ratings of academic importance in 11th grade. Peer/social discrimination in 8th grade was negatively associated with school importance (but not GPA) in 11th grade, while peer/social discrimination in 11th grade was negatively associated with both GPA and school importance in 11th grade. Chavous et al. also reported some connections between discrimination and academic outcomes among female participants. For example, increased 11th grade teacher/classroom discrimination was negatively associated with both GPA and school importance in 11th grade. Increased peer/social discrimination in both 8th and 11th grade was negatively associated with school importance in 11th grade, but was not associated with GPA.

Other studies have also examined the unique role of gender in moderating the relationship between perceived discrimination and academic outcomes in African American and Latina/o adolescents. Cogburn, Chavous, and Griffin (2011) also analyzed the MADICS data set and reported strong negative correlations between teacher/classroom discrimination and GPA among African American 8th grade boys, but not girls. Alfaro et al. (2009) reported similar results among a sample ($N = 221$) of Latina/o high school students in five Midwestern high schools, having discovered a direct relationship between perceptions of discrimination and academic motivation among the males in their sample, but not the females.

While the results of the studies above do shed some light on the link between perceptions of discrimination and academic achievement, the results are not totally conclusive. In particular, at least one research team (Neblett et al., 2006) has called more study into the relationship between individual perceptions of discrimination at school and academic achievement, as well as moderating factors which might mitigate the impact of discrimination on school outcomes. Recent studies in this area have also begun to pursue the relatively new proposition that gender may play a role in how adolescents experience discrimination at school and are negatively impacted by it with regard to academic achievement (Alfaro et al., 2009; Cogburn et al., 2011), although more research is also needed in this area.

Protective Factors

Much of the research on protective factors in academically resilient students has focused on determining the personal and psychosocial traits and characteristics present in successful students, as well as the specific interpersonal and family factors which influenced their academic outcomes. While research which attacks the achievement gap issue from the strengths based, academic resilience point of view is relatively sparse, a handful of protective factors have emerged from the studies which do exist, primarily through the in depth, qualitative study of successful African American and/or Latina/o students. The following is a brief overview of a few protective factors (future temporal orientation, internal locus of control, willingness to “class jump” to a higher socioeconomic class, caring school personnel, and strong parent involvement in education) which have been consistently identified in successful minority students, with a

more extensive treatment given to one factor (emotional intelligence) which some theorists feel may play an especially significant role in fostering academic resilience (Morales & Trotman, 2010).

Future temporal orientation. A strong future temporal orientation (FTO) has been identified in many successful African American and Latina/o students (Brown & Jones, 2004; Morales, 2010). According to Morales (2010), a strong FTO is marked by, “thoughts, speech, and behavior that emphasize the attainment of prospective goals...rather than immediate gratification and concerns” (p. 169). Brown and Jones (2004) hypothesized that students with a strong FTO would view their future goals in a context which seems nearer and more reachable, which in turn would translate into action in the present. Consistent with this hypothesis, Brown and Jones found that African American high school students with a strong FTO were more likely to see the usefulness in education (an important factor in academic resilience, as pointed out above). This was the start of a process whereby these students saw the value in their academic work and did what was necessary to earn higher GPAs. In a more diverse sample of academically resilient adolescents, Morales (2010) also found that 86% of his participants described having a strong FTO and considered their future goals to be, “realistic, attainable, and worthy” (p. 169).

Internal locus of control. Another psychosocial characteristic which has been consistently found in academically resilient African American and Latina/o adolescents is a strong internal locus of control, or the feeling that one has influence over the circumstances of his or her life (Ford, 1994; Gordon, 1995; Morales, 2008a; Morales,

2010). Researchers such as Martin (2002) hypothesize that students who believe they have low levels of control over academic outcomes exhibit maladaptive patterns of motivation and are at-risk of engaging in self-defeating behaviors. Due to the detrimental effects of discrimination, perceived discrimination, and low teacher expectations, all of which are common to the academic experience of African American and Latina/o students (Chavous et al., 2008; Greene et al., 2006; Wong et al., 2003), it can be easy for these students to believe that they have little to no control over their academic outcomes and that they will fail, and indeed, that they are supposed to fail (Alfaro et al., 2009; Brown, 2004; Neblett et al., 2006). Those who have studied the issue in African American and Latina/o students find that academically resilient students frequently exhibit a strong internal locus of control as opposed to the fatalist mentalities present in many of their peers. In a review of literature on the topic, Ford (1994) discovered that strong internal locus of control is one of the psychosocial characteristics discovered most frequently in resilient youth of color. Morales (2010) reported that 92% of his sample of academically resilient students of color exhibited a strong internal locus of control. Gordon (1995) also found that when compared to non resilient African American students, those who exhibited resilience scored higher in measures of cognitive control, or the belief that they controlled their own cognitive goals.

Valuing school/willingness to class jump. Given the social and family norms under which many African American and Latina/o youth are raised, the idea that school is valuable and can be used as a springboard to life success is not a foregone conclusion (Ogbu, 1987). Some adolescents consider the act of elevating their social class akin to

betraying their family, community, and race (Ogbu, 1994), while other adolescents will develop negative—even hostile—attitudes towards school and their teachers due to the discrimination, indifference, and diminished expectations they will encounter (Alfaro et al., 2009; Boykin, 1986; Brown, 2004; Neblett et al., 2006; Ogbu, 1988). Due to the factors above, one trait frequently cited as being important to the success of academically resilient students of color is their belief that education will eventually lead to improved life outcomes and allow them to “class jump” into higher socioeconomic strata (Gayles, 2005; Gordon, 1995; Morales, 2010). Morales (2010) found that 94% of his sample of academically resilient students of color reported a willingness and desire to move up in social class, although it frequently took the coaching of a mentor for these students to realize that such beliefs are acceptable. Gayles (2005) found that the academically resilient students in his sample held similar beliefs. These students frequently characterized academic achievement (“good grades”) as a means to an end, or a way to improve their lives, leave their neighborhoods, and/or get the material possessions they desired while growing up. Among their sample of academically resilient African American high school students, Murray and Naranjo (2008), found that most of the students held strong beliefs in the societal value of education, and that they viewed school as the pathway to better jobs and a better future. Perez et al. (2009) also reported high levels of valuing school among academically resilient students in a sample of undocumented Latina/o youth, and found significant differences between the levels of value the parents of those students placed on school when compared with the parents of their non resilient peers.

Caring school personnel. Whether a teacher, counselor, special education case-manager, or some other staff member, academically resilient students of color frequently point to caring school personnel as having been important to their success. These caring adults are typically described as committed, encouraging, empathetic, supportive, and willing to challenge (Morales, 2010; Murray & Naranjo, 2008; Reis et al., 2005), but have also been described as mentors and “cultural translators” (Morales, 2010), advocates (Murray & Naranjo, 2008), and role models (Reis et al., 2005). Whatever role they play, it is apparent that these caring, supportive adults are key to the academic success of African American and Latina/o youth, especially during the K-12 years. To that end, Morales (2010) found that 90% of the academically resilient youth in his sample pointed to the presence of a caring school staff member during their K-12 years as being important to their success in school. Similarly, all 11 of the students studied by Murray and Naranjo (2008) indicated that they had received guidance and support from at least one influential teacher or staff member during high school. In describing “good” teachers, these students talked about the delicate balance between teachers being demanding, but also supportive and helpful in breaking down the material in a way that the students could understand.

High parental expectations/involvement. Parents are frequently cited as key to the academic success of students of color (Morales, 2008a; Morales, 2010; Murray & Naranjo, 2008; Perez et al., 2009; Reis et al., 2005). Parents seem to play several important roles in fostering academic resilience in African American and Latina/o youth: relaying their beliefs about the importance of school (Gayles, 2005; Perez et al. 2009);

taking an active role in their children's education (Morales, 2010; Murray & Naranjo, 2008); holding their students to high expectations (Morales, 2008a; Morales, 2010; Murray & Naranjo, 2008), and modeling a strong work ethic in their own lives (Morales, 2008a; Morales, 2010; Reis et al., 2005).

Morales (2010) found that truly effective parents went beyond simply making isolated comments about wanting their students to do well in school, and instead translated those wishes into concrete actions such as enrolling their students in schools outside of their normal attendance area (76%), encouraging their children to read (80%), and "staying on top" of them about doing their homework (72%). In addition, many of these parents modeled a strong work ethic for their students, often working long hours (sometimes in multiple jobs) to facilitate opportunities for their children to attend private schools, as well as to free the students of the burden of needing to work themselves (Morales, 2008a; 2010). Similarly, Murray and Naranjo (2009) reported that the parents of the students in their sample were highly involved in their children's education and also provided structure at home which helped facilitate academic success. The authors noted that all but one of the participants had parents who actively monitored their academic progress and took an active role in their education by visiting the school, talking with teachers to advocate on behalf of their children, and making sure the students kept up with assignments. Perez et al. (2009) also found that academically resilient Latina/o students who were undocumented in the U.S. had parents who scored higher on a measure of valuing school than did the parents of their non resilient peers, again speaking to the power of parents who stress the importance of school to their children.

Emotional intelligence (EI).

As evident in the work cited above, a variety of dispositional and interpersonal factors have been identified in studies of academically resilient students. In reading these studies and the corresponding theories of the researchers who carried them out, one protective factor which is frequently hypothesized to play a larger role in academic resilience than many other factors is emotional intelligence (Ford, Kokjie, & Lewis, 1996; Morales, 2008; Morales & Trotman, 2011).

The idea that individuals possess varying degrees of ability to understand and manage people and relationships can be traced back to the concept of *social intelligence* proposed by Thorndike (1920). Along with mechanical and abstract intelligence, social intelligence was offered as another way in which a person's intelligence could be quantified. Although early attempts to measure social intelligence proved mostly fruitless (Cronbach, 1960; Thorndike & Stein, 1937), the concept remained of great interest to some social scientists, and the field of study was eventually reinvigorated by the theory of multiple intelligences (specifically intrapersonal and interpersonal intelligence) put forth by Gardner (1983).

Emotional intelligence (EI) as it is currently conceptualized was introduced in the social science literature by Salovey and Mayer (1989), who described EI as the "ability to monitor one's own and others' feelings and emotions, to discriminate among them and to use this information to guide one's thinking and actions" (p. 189). In essence, their original model of EI was comprised of three spheres of emotional ability, each of which plays a part in measuring total EI: appraisal and expression of emotion, regulation of

emotion, and utilization of emotion. Although refined over the years, the Salovey and Mayer conceptualization of EI remains one of the major forces in the study of the construct.

The concept of EI was brought into the mainstream by a popular book on the subject (Goleman, 1995) and a subsequent cover story in *Time* magazine (Gibbs, 1995). Explained at that time in simple terms as a basic set of emotional abilities such as self-awareness, self-regulation, and “people skills,” the sum total of which were posited to be just as important to life successes as general intelligence, EI began catching on in a wide range of outlets, both academic and popular. Indeed, instruments designed to measure EI have been exploding since that time, starting with a crude measure included in that same issue of *Time* (Park, 1995) and continuing to the measures most widely accepted today, such as the Emotional Quotient Inventory (EQ-i; Bar-On, 2004), the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT; Mayer, Salovey, & Caruso, 2002), the Schutte Self Report Emotional Intelligence Test (SSEIT; Schutte et al., 1998), and the Trait Emotional Intelligence Questionnaire (TEIQue; Petrides, 2008).

At the current time, the conceptualization and measurement of EI is complicated by the fact that there is no universally agreed upon definition of the term. One widely accepted conceptualization of EI was put forth by Petrides and Furnham (2001), who argue that EI can generally be split into two types: trait EI and ability EI. Trait EI refers to “a constellation of *behavioral dispositions* and *self-perceptions* concerning one's ability to recognize, process, and utilize emotion-laden information” (Petrides et al., 2004, p. 278) and has sometimes been referred to as emotional self-efficacy (Petrides &

Furnham, 2001), or what one believes about his or her ability to perceive and make use of emotions. Contrary to the connotations one might associate with the term trait, trait EI is generally considered to be a flexible characteristic which can change over time and be influenced through intervention. On the other hand, ability EI refers to “one's *actual* ability to recognize, process, and utilize emotion-laden information” (Petrides et al., 2004, p. 278). The primary differences between trait and ability EI are that the former is conceptualized as primarily a personality variable which is measured via self-report instruments, while the latter is considered a cognitive variable measured by maximum performance instruments with correct and incorrect responses, similar to the ways in which other measures of cognitive intelligence (such as verbal IQ or “g,” general intelligence) are obtained.

The importance of the distinction between these two types of EI cannot be overstated as it directly impacts how researchers theorize about and measure EI. Regardless of the overlap between the constructs (see Petrides & Furnham, 2001), when viewed from the worldview of a counseling practitioner, it is preferable to conceptualize EI as a flexible trait—rather than an inflexible ability—insofar as it leaves open the possibility that EI might be enhanced through intervention as demonstrated by Nelis, Quoidbach, Mikolajczak, and Hansenne (2009). As such, for the purposes of this study, EI will be conceptualized and measured through a lens of trait EI put forth by Petrides and Furnham (2001).

Since the trait EI framework will be utilized for this study, it seems appropriate to provide more detail about the Petrides and Furnham (2001) conceptualization of the

construct. After conducting a content analysis of the salient literature on EI (Bar-on, 1997; Goleman, 1995; Salovey & Meyer, 1989), Petrides and Furnham (2001; see Table 1) selected 15 facets of the construct which represent trait EI and should be included in any measure thereof. Petrides and colleagues have continued using this conceptualization in their research on trait EI, and it has served as the framework upon which their TEIQue assessment (Petrides, 2009) and its correlates have been based.

Table 1

Sampling Domain of Trait EI

Adaptability	Emotion regulation	Social competence
Assertiveness	Impulse control	Stress management
Emotion appraisal (self and others)	Relationship skills	Trait empathy
Emotion expression	Self-esteem	Trait happiness
Emotion management (others)	Self-motivation	Trait optimism

Note. From Petrides & Furnham (2001).

EI and academic achievement.

Over the past decade, there has been a large increase in research examining the relationship between EI and academic performance at a variety of educational levels. While the vast majority of this research has been done with samples which were overwhelmingly White (Hogan et al., 2010; Parker, Creque et al., 2004; Parker, Summerfeldt, Hogan, & Majeski, 2004) or in which ethnicity was not reported (Agnoli et al., 2012; Di Fabio & Palazzeschi, 2009; Petrides et al., 2004; Schutte et al., 1998; Van

Der Zee, Thijs, & Schakel, 2002), it is nonetheless important to examine this body of literature for a baseline understanding of what is currently known about the links between EI and academic achievement. In general, EI has been found to be correlated to a variety of measures of academic achievement and outcomes (Hogan et al., 2010; Parker, Creque et al., 2004; Parker, Summerfeldt et al., 2004; Petrides et al., 2004), although this finding is not universally supported (Mavroveli & Sánchez-Ruiz 2011; Newsome, Day, and Catano, 2000). Below are a few of the important studies which have investigated the link between EI and academic achievement.

As is typical with many social science constructs, a good deal of the research on EI and academic achievement has been done with samples of college students. In the first peer-reviewed study on the matter, Schutte et al. (1998) found that EI predicted first year college GPA among a sample ($N = 64$) of college students. Song et al. (2010) also discovered that EI added value in predicting college GPA above and beyond the effects of general intelligence (or “general mental abilities”) in a sample ($N = 222$) of first and second year Chinese college students. Similarly, Van Der Zee et al. (2002) found that EI added value to predictions of academic success (as measured by GPA, total grade points, and study habits) beyond the effects of general intelligence and the Big Five personality factors in a sample ($N = 116$) of college students. Laborde, Dosseville, and Scelles (2010) demonstrated that EI was also positively associated with short term academic success (score on a multiple choice examination to test comprehension of a 45 minute lecture) in a classroom situation rated as stressful by the participants. According to the Laborde et al. (2010), these results demonstrate that high EI students may be better able

to manage the anxiety of a stressful testing situation than can their peers, and that high EI students may view such situations as challenges rather than a threat.

In an important and oft cited study on EI and academic achievement, Parker, Summerfeldt et al. (2004) compared college students in Canada who had finished their first year with a GPA high enough to earn “Dean’s List” honors ($GPA \geq 80\%$) to those who had been placed on academic probation ($GPA \leq 59\%$). While they found no difference between the groups on such measures as high school GPA, age, or course load, they did observe significant differences on total EI as measured by the EQ-i (Bar-On, 1997), as well as on several subscales of the measure. Furthermore, they found that total EI at the beginning of the academic year was an excellent predictor of both academic success (correctly predicting 82% of high-GPA students) and failure (correctly predicting 91% of low-GPA students). While the academic success (or lack thereof) of these students cannot be directly attributed to the effects of EI, the literature provides some support for the notion that EI (or an underlying component) plays an important role in academic success during the transition from high school to college (Parker, Summerfeldt et al., 2004; Schutte et al., 1998; Song et al., 2010).

The work of many researchers also seems to confirm the relationship between EI and academic achievement at other levels of education, including high school. Parker, Creque, et al. (2004) sampled high school students ($N = 667$) in Huntsville, AL and found that students with high GPAs (80th percentile) scored significantly higher on total EI as measured by the EQ-i: Youth Version (Bar-On & Parker, 2000) and several of its subscales than did students with medium (20th to 80th percentile) or low (below 20th

percentile) GPAs. Furthermore, students in the medium GPA group also scored significantly higher on EI than did students with low GPAs.

Several studies have shown that EI adds incremental validity to predict academic performance after controlling for important factors such as general intelligence, personality, and self-concept. In one such study, Hogan et al. (2010) discovered that in a sample ($N = 192$) of 10th grade students, EI partially mediated the relationship between verbal IQ and GPA in male students. In other words, the researchers found that EI partially explained how verbal IQ impacted academic success in a sample of male adolescents. Due to this finding, Hogan and colleagues noted that researchers should recognize the importance of both abilities with regard to academic success. In addition to the finding above, Hogan and colleagues also found that EI directly predicted GPA in both males and females, and that several subscales of the EI inventory (TEIQue; Petrides, 2009) also explained variability in GPA after controlling for verbal IQ, gender, and SES. Similarly, Di Fabio and Palazzeschi (2009) found that both ability EI and trait EI added incremental value in predicting academic performance (as measured by grade point average) after controlling for fluid intelligence and personality variables in a sample ($N = 124$) of Italian students in their final two years of high school. Ferrando et al. (2011) reported that trait EI was significantly positively correlated with academic achievement ($r = .29, p < .01$), and that EI added incremental predictive validity with regard to academic achievement after controlling for IQ, personality factors, and general self-concept.

Studies have also shown that EI impacts academic achievement by moderating the relationship between cognitive ability and academic performance. Petrides et al. (2004)

found that EI moderated the relationship between cognitive ability (as measured by a verbal IQ test) and academic performance (as measured by standardized examinations) in the low and average IQ students in a sample ($N = 650$) of 11th year British students. In essence, this finding demonstrated that in general, students with high EI performed better academically than did their peers with low EI across a wide spectrum of verbal IQ scores. Only at high levels of verbal IQ (+ 1 SD) did this trend become non evident. Qualter, Gardner, Pope, Hutchinson, and Whiteley (2012) discovered a similar function for EI in a longitudinal study of 413 British students. In their study, measures of both trait and ability EI were collected from students at the start of year 7 in school and compared to performance data (national standardized examination) at the end of year 11. Mirroring the findings of Petrides et al. (2004), Qualter and colleagues found that ability EI moderated the relationship between a measure of cognitive ability and academic performance in year 11. They also found a direct relationship between trait EI and academic performance in males.

Agnoli et al. (2012) reported similar findings among even younger students when they discovered that EI moderated the relationship between cognitive ability and one measure of academic performance (teacher assigned grades in language arts) in a sample ($N = 352$) of Italian elementary school students between the ages of 8 and 11 years old. Additionally, a direct positive relationship between EI and math performance was also observed.

Not all studies have demonstrated a connection between EI and academic achievement. In an oft cited study on the matter, Newsome, Day, and Catano (2000)

found no correlation between total EI or any of the underlying five factors as measured by the EQ-i (Bar-On, 1997) and college GPA in a sample of 180 students. Similarly, Bastian, Burns, and Nettelbeck (2005) also reported no correlation between EI and self-reported high school academic achievement among a sample ($N = 246$) of first year college students in Australia. O'Connor and Little (2003) found some small correlations between EI and academic achievement (college GPA) among a sample ($N = 90$) of college students, but concluded that "EI is not a strong predictor of academic achievement regardless of the type of instrument used to measure it" (p. 1893).

Mavroveli and Sánchez-Ruiz (2011) largely discounted the idea that trait EI should be related to cognitive ability or any of its proxies (i.e., academic achievement), and indeed, they overwhelmingly found the two variables uncorrelated in a large sample ($N = 565$) of elementary school students ($M_{age} = 9.12$ years) in England. Despite analyzing the sample across grade levels ("years") 1 to 6 and three separate measures of academic achievement (standardized test scores in reading, writing, and math), the authors found only one small correlation between EI and math scores, and even that was only present among year 3 students.

In interpreting these results, Mavroveli and Sánchez-Ruiz (2011) pointed out that the theoretical underpinnings of trait EI (as a personality trait rather than a cognitive ability) preclude it from being related to academic achievement in any meaningful way. They argue that in many studies which demonstrate a link between EI and academic achievement, other variables more consistently found to be related to school success (i.e., general intelligence and personality) were not controlled for. Indeed, Brackett and Mayer

(2003) found that the effects of EI on academic achievement were rendered statistically insignificant after controlling for the Big Five personality variables and scores on the verbal portion of the Scholastic Aptitude Test (SAT). Similarly, Barchard (2003) also reported that measures of EI had no impact on academic achievement above and beyond typical measures of cognitive ability and personality.

While it is true that in some cases researchers have chosen not to control for variables such as cognitive ability and personality in studying the link between EI and academic achievement (i.e., Parker, Cleque et al., 2004; Parker, Summerfeldt et al., Schutte et al., 1998), this assertion fails to make mention of the studies which did report incremental predictive validity for EI above and beyond that provided by variables traditionally related to academic achievement, such as general intelligence, verbal IQ, SES, and the Big Five personality traits (Hogan et al., 2010; Song et al., 2010; Van Der Zee et al., 2002). As such, it would be unwise to discount the findings of a growing body of literature due to the methodological shortcomings of just a few studies.

While a preponderance of the literature seems to support the notion that EI is somehow related to academic achievement, the nature of this relationship is not fully understood, nor is it universally supported by every study on the matter. What is abundantly clear is that more research is needed in this area (Humphrey, Curran, Morris, Farrell, & Woods, 2007) and, as will be discussed below, studies with diverse samples are of crucial importance (Parker, Creque et al., 2004).

EI and academic resilience in African American and Latino/a students.

The relationship between EI and academic resilience in minority students has arisen as a topic of interest in the literature, albeit in a very small way to this point. Ford, Kokjie, and Lewis (1996) reasoned that African American students with high EI would be better equipped than their peers to deal with the negative impacts of discrimination, racism, and low teacher expectations in school, all of which can contribute to feelings of anger and rebelliousness (Ogbu, 1988), the belief that teachers are oppressors (Boykin, 1986), and ultimately, to negative academic outcomes (Alfaro, 2009; Brown & Jones, 2004; Neblett et al., 2006). Specifically, Ford et al. (1996) hypothesized that African American male college students with high EI might be able to mitigate the effects of discrimination by making use of the following traits associated with EI as described by Goleman (1995): controlling their impulses; making sound decisions based on “gut” feelings; soothing their anger and anxiety; persisting and maintaining optimism in the face of adversity; reading and responding to the emotions of others (particularly the unspoken); and interacting smoothly with others and managing relationships effectively. In support of this hypothesis, Ford et al. did find a positive correlation between EI and academic resilience (defined in the study as carrying a college GPA of 3.0 or higher) among African American male college students, with EI contributing approximately 5.5% of the variance to academic resilience.

Maree and Meijer (2010) studied the relationship between EI and identity negotiation among minority students in a majority school culture in South Africa. Using a mixed methods design, the researchers discovered that EI played a significant role in

the adjustment and performance of minority students in these contexts. Although inferential statistics were not reported, the study provided several examples of how students with high EI scores utilized underlying characteristics of the construct, such as stress management and interpersonal skills, to successfully negotiate the demands of a majority school culture.

Petrides et al. (2004) speculated that while EI may not directly impact academic performance in all students, its effects would be expected to be more pronounced among “vulnerable and disadvantaged individuals” (p. 279) who are more likely to experience stress and other emotional difficulties in school, and who therefore might benefit more from the ability to manage, read, and respond to their own emotions and those of others than would more advantaged groups of students. Given the harmful impacts of discrimination on the academic achievement of African American and Latino/a students (Chavous et al., 2008; Neblett et al., 2006; Ogbu, 1987; Steele & Aronson, 1995; Wong et al., 2003) as well as the plethora of other challenges these students must overcome in order to succeed in school (Ladson-Billings, 2006), it stands to reason that these two groups might be categorized as both vulnerable and disadvantaged, and that EI would therefore be expected to play a larger role in their academic success than it would among groups of students from the majority culture.

Morales (2008a; 2010) has also hypothesized that EI may be related to academic resilience. In a qualitative study of 50 racial minority college students who had earned 30 or more college credits with a GPA of 3.0 or higher (and therefore labeled as academically resilient for the purposes of the study), Morales found that these individuals

utilized a variety of cognitive and emotional coping mechanisms to overcome the stress associated with navigating school as a minority youth. In attempting to conceptualize these processes, Morales (2008a) posited that EI may be the concept that most accurately represents the traits exhibited by these students (p. 166). In a follow up study with five of the original participants (those of Dominican American descent), Morales (2008b) again pointed to traits frequently associated with EI as being critical to the students' academic resilience. Although Morales did not specifically name EI in this article (instead referring to the process as "metacognition"), it appears to be related to EI in that it involved a process whereby students were able to come to a heightened awareness of what they were thinking and feeling in response to their environment, and subsequently, these students were able to channel their thoughts and actions into positive outcomes rather than acting impulsively. In essence, these students displayed high levels of emotional regulation and awareness in responding to stressful situations—the very heart of EI. In the same way, Reis, Colbert, and Hebert (2005) painted a picture of students high in EI when they described the academically successful students in their study as possessing a "heightened sensitivity to each other and the world around them" (p. 116).

As mentioned above, Morales and Trotman (2010) went further in assigning EI a prominent place in their model of academic resilience referred to as the *Resilience Cycle*. In this model, EI is placed at the "hub" of a complex process in which academically resilient students (a) identify needs/challenges; (b) acquire protective factors; (c) utilize a variety of protective factors together in concert to navigate challenging circumstances; (d) build self-efficacy; and (e) develop enduring motivation. According to Morales and

Trotman, EI plays a key role in academic resilience in that facilitates the process whereby resilient students utilize the protective factors at their disposal. In other words, Morales and Trotman would expect that African American and Latina/o students who possess high levels of EI would be better able than their peers to acquire and make use of protective factors which would help them overcome the challenges associated with attending school such as discrimination (Chavous et al., 2008; Steele & Aronson, 1995), a history of marginalization (Ladson-Billings, 2006), and school funding (McKinsey & Company, 2009).

Summary and Implications

Studies carried out from the academic resilience perspective examine not only the risk factors which might be negatively associated with the academic outcomes of African American and Latina/o students, but also the protective factors and processes that serve to mitigate the negative impact these risk factors have on the academic achievement of successful students from these ethnic backgrounds. In taking such a stance towards research with these groups, it is hoped that a body of literature will begin to emerge which helps educators better understand how and why some of these students are able to achieve academic success in spite of the many challenges they face, and eventually, how this success can be fostered in all students.

One risk factor that is often implicated in the literature around the achievement gap is discrimination based on ethnicity. Several theories exist regarding how discrimination on a societal level can impact the academic achievement of African American and Latina/o students (Ogbu, 1987; Steele & Aronson, 1995), but the literature

is much more sparse with regard to how an individual student's perceptions of discrimination in school (originating from both adults and peers) is related to academic achievement. Findings around this issue have been mixed (Chavous et al., 2008; Wong et al., 2003) and researchers have called for more study into the presence and impact of individual perceptions of discrimination (Greene et al., 2006) as well as the possible role of gender in moderating these relationships (Chavous et al., 2008; 2011).

While the study of risk factors such as discrimination is certainly still necessary, the academic resilience perspective also calls researchers to investigate the protective factors and processes which serve to mitigate the harmful impact which risk factors have on the school outcomes of at-risk students. Given this call, as well as the (a) increased interest in the link between EI and academic achievement among the general population (Humphrey et al., 2007; Petrides et al., 2004), (b) the unclear findings of studies carried out to this point (Humphrey et al., 2007), (c) and the relative paucity of EI research done with diverse samples (E. Morales, personal communication, October 24, 2012; Parker, Creque et al., 2004), it stands to reason that more studies of this kind should be designed and executed. At least one model of academic resilience (Morales & Trotman, 2010) speculates that EI plays a critical role in facilitating academic resilience in students of color, although this has not been empirically tested. As such, it would seem that in terms of studying the link between EI and academic achievement in diverse samples, more quantitative research is needed at this point. To date, most research on the matter has been qualitative in nature, and while these studies have been important in furthering researchers' understanding of how EI might be linked to school outcomes, some experts

believe that the next step in academic resilience research is the quantitative study of protective factors which have previously been tied to academic resilience through theory or qualitative research (E. Morales, personal communication, October 24, 2012). To that end, the present study sought to determine the roles of EI, perceptions of discrimination, and gender in the academic achievement of a sample of African American and Latina/o high school students. A description of this study and discussion of its findings is presented in the subsequent chapters.

Chapter 3: Methodology

The previous chapter described the nature of academic resilience research and presented an overview of risk factors and protective factors thought to impact the academic achievement of African American and Latina/o adolescents. The need for further study of one risk factor (individual perceptions of discrimination), one protective factor (emotional intelligence), and the role of gender was demonstrated through a review of the literature. The following chapter describes the current study carried out to examine the relationships between these variables. Procedures followed in carrying out the study are explained below, including issues related to research questions, design, sampling, data collection, data analysis, and ethical considerations.

Research Questions

1. To what extent do emotional intelligence and perceptions of discrimination at school predict grade point average (GPA) among a sample of African American and Latina/o high school students in a suburban Minnesota community?
2. Does emotional intelligence moderate the relationship between individual perceptions of discrimination and GPA among the sample? If so, to what extent?
3. Is there a significant difference, by gender, in the degree to which African American and Latina/o high school students attending a suburban high school in Minnesota perceive discrimination at school?

4. Does gender moderate the relationship between individual perceptions of discrimination and GPA among a sample of African American and Latina/o high school students in a suburban Minnesota community? If so, to what extent?

Research Design

The study was quantitative in nature and utilized an ex post facto, correlational design as described by Heppner, Wampold, and Kivlighan (2008). Both correlational and ex post facto studies examine the relationships between two or more variables without assigning causality. Ex post facto implies that the examination of data is taking place “after the fact,” by studying variables which already exist in a sample (i.e., gender, ethnicity, SES), rather than those which are introduced or assigned to a sample as in experimental studies.

In this study, participants were given paper and pencil questionnaires to collect basic demographic information and to measure individual levels of perceived discrimination and emotional intelligence. Archival data from the student information system at the school was used to identify potential participants by ethnicity and to gather the GPAs of participants. Relationships between these variables were explored using the statistical analysis procedures outlined below.

Population and Sample

The population of interest with regard to this study was African American and Latina/o high school students in the United States. A convenience sample of students at a high school in the suburbs of Minneapolis, Minnesota was recruited for participation.

See Table 2 for estimates of population by ethnicity and locale (study site, state, and nation).

Table 2

Percentage of students by ethnicity and locale (study site, state, and nation)

Locale	White	African American	Latina/o
Study Site*	69.6	18.9	5.4
Minnesota*	73.8	10.2	7.1
United States**	53.5	15	23.3

Notes: *Statistics for Study Site and Minnesota are taken from Minnesota Department of Education (2012). **Statistics for the United States are taken from National Center for Education Statistics (2012).

Instrumentation

Three instruments were used to collect data for this study: (a) demographic questionnaire; (b) Trait Emotional Intelligence Questionnaire—Adolescent Short Form (TEIQue—ASF; Petrides, Sangareau, Furnham, & Frederickson, 2006); and (c) School Discrimination Scale used in the Maryland Adolescents Development in Context Study (MADICS). The following are descriptions of each instrument, including estimates of reliability reported in previous studies.

Demographic Questionnaire (Appendix A). The study utilized a basic demographic questionnaire developed for this study in order to gather the following information: high school student identification number (ID); grade in school; gender; race/ethnicity; and self-reported cumulative grade point average (included for use in the

event a student's actual GPA could not be obtained from the school's student information system). The following variables were also collected for possible use in future studies: free/reduced lunch status (a measure of SES); birth country; and primary language. The questionnaire is available in Appendix A of this study.

Trait Emotional Intelligence Questionnaire—Adolescent Short Form (TEIQue—ASF; Appendix B). Emotional intelligence was measured by the TEIQue—ASF (Petrides, Sangareau, Furnham, & Frederickson, 2006). This 30-item instrument provides a total score for global trait EI as conceptualized by Petrides and Furnham (2001), and is one of many instruments adapted from the Trait Emotional Intelligence Questionnaire (TEIQue; Petrides, 2009), developed in 2001 and rigorously studied since that time at the London Psychometric Laboratory by Petrides and colleagues. Scores for global trait EI on the long form TEIQue are highly correlated with those on the TEIQue—ASF ($r = 0.95$; Mikolajczak, Petrides, & Hurry, 2009). The TEIQue—ASF is made up of 15 subscales, each of which consists of 2 questions to measure the 15 separate facets of global trait EI as conceptualized by Petrides and Furnham (2001). The items are reported on a 7-point scale (from 1 = *strongly disagree* to 7 = *strongly agree*), and include statements such as, “It’s easy for me to talk about my feelings to other people,” “I can make other people feel better when I want to,” and “I can control my anger when I want to.” When global trait EI scores are reported (as in this study), the range of possible scores runs from 30 (the lowest response of “1” for each of the 30 items) to 210 (the highest response of “7” for each item). A copy of the full instrument can be found in Appendix B of this study.

The TEIQue—ASF has been utilized in a variety of studies with children and adolescents. High internal consistency reliability for the total score on global trait EI has been reported in every peer reviewed study which made use of the instrument. While subscale scores are sometimes reported separately, reliability for these scales tend to be lower than the total score, and it is therefore typical to utilize only the total score on global EI for research purposes (Petrides et al., 2006a). In the initial study utilizing the measure, Petrides et al. (2006b) administered the TEIQue—ASF to a sample of 122 children and adolescents (mean age = 10.8 years) and obtained an internal consistency reliability for the scale of .84. Mikolajczak et al. (2009) reported reliability of .83 among a sample of 490 British adolescents (mean age = 16.65 years) which was relatively diverse (21.1% “Black” and 6.8% “Asian”). Ferrando et al. (2011) utilized the measure on a sample of 290 primary school students in Italy (mean age = 11.53 years) and also reported a high internal consistency reliability ($\alpha = .82$) for the total EI score.

School Discrimination Scale used in the Maryland Adolescents Development in Context Study (MADICS). The School Discrimination Scale was developed for use in the aforementioned Maryland Adolescents Development in Context Study (MADICS), a longitudinal study of almost 1,500 families in a large metropolis on the east coast of the U.S. Data was collected in from students in five waves over a period of 7 years by Eccles, Sameroff, and colleagues (detailed study information can be found at <http://www.rcgd.isr.umich.edu/pgc/home.htm>). The School Discrimination Scale used in the MADICS study is a three question self-report measure comprised of two subscales: a three question peer/social discrimination scale and a four question teacher/classroom

discrimination scale. Both subscales utilize a 5-point scale (from 1 = *Never* to 5 = *Everyday*) to measure the frequency with which students perceive various forms of adult-initiated discrimination at school. The peer/social discrimination scale asks students to rate the frequency with which they get into fights, are not picked for school teams and activities, and do not associate with peers due to their race. The teacher/classroom scale asks students to rate the frequency with which they are called on less often, graded harder, disciplined more harshly, and considered by their teachers to be less smart than they really are due to their race.

Responses to the School Discrimination Scale in the MADICS study are frequently studied by researchers interested in relationships between discrimination at school and a variety of outcomes. High levels of internal consistency reliability for the Discrimination Scale and its subscales have been reported by a number of authors. Wong et al. (2003) analyzed the responses of the 629 African American participants in Wave 2 of the MADICS study and reported high internal consistency reliability for both the peer/social scale ($\alpha = .86$) and teacher/classroom scale ($\alpha = .88$). Brodish et al. (2011) reported high internal consistency for the total scale at both Wave 3 ($\alpha = .89$) and Wave 4 ($\alpha = .89$) for the 815 African Americans who participated in the study at two or more points from age 12 to age 30. Chavous et al. (2008) reported high internal consistency reliability at both Waves 3 and 4 for the peer/social scale ($\alpha = .84$ and $\alpha = .85$, respectively) and the teacher/classroom scale ($\alpha = .84$ and $\alpha = .88$, respectively) among the 410 African American adolescents who participated in both waves. Finally, Cogburn et al. (2011) analyzed the responses of 413 African American participants on the

teacher/classroom subscale at Wave 3 and reported high internal consistency reliability ($\alpha = .87$). The entirety of the scale can be found in Appendix C of this study.

Data Collection Procedures

Approval for the study was sought from the Institutional Review Board (IRB) at Minnesota State University, Mankato. Once approval was gained, potential participants at the study site were identified as African American or Latina/o based on school records. Consent forms which explained the purpose and procedures of the study were given to African American and Latina/o students in 30 different sections of the school's Monday Advisory class (homeroom) by the teachers of each section. Students who were 18 years of age or older were given a consent form which they could sign and return themselves. Students under the age of 18 years old were given a consent form to be signed by a parent. All students received a brief overview of the study from their Monday Advisory teacher and were asked to return the consent form to their teacher or directly to the counseling office where data collection sessions would be held. A list of students who returned completed consent forms was created and stored in the counseling office.

Over the course of three weeks, data collection sessions supervised by a school counselor were held at the school site during Monday Advisory periods, study hall periods, lunch, or other times identified by participants as convenient. Only students who returned a signed consent form were invited and allowed to participate, with the exception of 18 year old students who attended a session and provided their own consent to participate. Each session began with a brief explanation of the study and a request for participation. It was emphasized that participation was completely voluntary and that

responses would be kept confidential. Following this explanation, students who chose to participate were asked to fill out an assent form attesting to the fact that they understood the purpose and procedures of the study and were participating willingly. These students were then given the packet of survey instruments. All students who returned a consent form and attended a data collection session chose to participate. Completion of the surveys generally took between 10 and 20 minutes. Students who turned in the survey packet (whether fully completed or not) were allowed to choose a food item with a material worth of no more than \$1 (candy bar, granola bar, bag of chips, or a packet of trail mix) and were also entered in a drawing for one of two available \$25 iTunes gift cards. Winners of the gift cards were chosen randomly from among all participants who turned in a survey packet by an online number generator approximately one week after data collection had ceased. School-assigned student ID numbers were used to identify the two winning students so that a gift card could be delivered to them at school.

Following the data collection sessions, the GPAs of each participant were gathered from the student information system at the school site. The school-assigned student ID numbers recorded on the demographic portion of completed survey packets were used to match participants with their GPAs.

Surveys, consent forms, and assent forms were stored in separate, locked locations at the school which were not accessible to students or staff. Data were entered into an electronic data analysis program (described below), and the saved files were made password protected. School personnel did not have access to any of the completed surveys, forms, or electronic data. The names of students were not recorded on any of

the survey instruments, and school-assigned student ID numbers were the only identifier gathered.

Data Analysis Procedures

As described above, this study was quantitative and ex post facto, correlational in nature. It explored the relationships between gender, individual perceptions of discrimination at school, emotional intelligence, and academic achievement (as measured by GPA) among African American and Latina/o high school students. Data collected from the survey instruments and student information systems were entered into IBM Statistical Package for the Social Sciences (SPSS) version 20 for analysis. Specific data analyses procedures are discussed in more depth in Chapter 4, but the following is a brief overview. Data were cleaned using the recommendations outlined by Tabachnick and Fidell (2006), and steps were taken to deal with missing values. Tests for the assumptions of multiple regression were then carried out. Descriptive statistics were then generated to analyze the frequency of responses as well as measures of central tendency. The following statistical tests were then carried out to answer each research question:

Research question 1. Simultaneous multiple regression was used to test the degree to which perceptions of discrimination and emotional intelligence predicted GPA among the sample. Simultaneous regression was chosen over other available methods due to the lack of any a priori theoretical rationale for entering variables into the equation in a specific order.

Research question 2. The interaction of the two predictor variables (perceptions of discrimination X emotional intelligence) was entered into the regression equation, and a

comparison of the models with and without the interaction term was carried out to test the possibility that emotional intelligence moderated the relationship between perceptions of discrimination and GPA among the sample. A moderator variable is one which affects the direction and/or strength of the relationship between independent and dependent variables (Tabachnik & Fidell, 2006).

Research question 3. An independent samples *t*-test was used to detect any significant difference in the amount of perceived discrimination reported by males and females.

Research question 4. Simultaneous multiple regression was used to test the possibility that gender moderates the relationship between perceptions of discrimination and GPA. As was the case with research question 2, a simultaneous multiple regression model which included only the two predictor variables was compared to a model which included the interaction term (gender X perceptions of discrimination) in order to test for a moderation relationship. As explained above, a moderator variable is one which affects the direction and/or strength of the relationship between independent and dependent variables (Tabachnik & Fidell, 2006).

Ethical Considerations

To ensure adherence to ethical standards, and to safeguard the well being of participants, the following precautions were taken:

1. The Institutional Review Board (IRB) at Minnesota State University, Mankato reviewed and approved the study and all related protocols in advance of any data being collected.

2. The researcher, dissertation chair, and all dissertation committee members adhered to the ethical code of the American Counseling Association (2005) with regard to carrying out research activities.
3. Informed consent was sought from the parents of all participants under the age of 18, and informed assent was sought from all participants prior to participation, regardless of age.
4. Participants and their parents were provided with a written explanation of the study's purpose and procedures prior to being recruited for participation.
5. The study was carried out in accordance with the policies and procedures of the high school site at which data was collected, and final approval to conduct the study was granted by the school's principal.
6. All information was kept confidential, and participant names were never collected or recorded.
7. The instruments to be used in the study had previously been used safely and reliably in studies with adolescents. The instruments were used only in the manner and for the purposes explicitly laid out in the section above.
8. Data were entered and analyzed in a secure manner on a password protected computer accessible only to the researcher.
9. Study results are only being reported in aggregate; the individual responses of participants will never be revealed.

Chapter 4: Results

This chapter describes the results of the study, including details related to data collection and screening, demographic characteristics of the sample, descriptive statistics of the data set, and results of analyses carried out to answer the research questions. The study was quantitative, ex post facto, and correlational (Heppner, Wampold, & Kivlighan, 2008). Quantitative studies make use of statistics to draw conclusions about a sample, and by inference, the population from which the sample was drawn. Correlational and ex post facto studies examine the relationships between two or more variables without assigning causality. Ex post facto specifically indicates that the variables studied were not introduced or assigned to the sample (as in experimental studies), but rather, that they already existed within the sample and were being measured after the fact.

In total, 205 students identified by school records as African American or Latina/o were invited to participate in the present study according to the procedures outlined in Chapter 3. Of those invited, 80 students chose to participate, for a total response rate of 38.5%. It should be noted that one participant was an Asian American student who came to a data collection session and asked to participate, but this student's responses were deleted from the data set.

Prior to analysis, the data were screened in SPSS version 20 for accuracy of data entry and missing values following the processes recommended by Tabachnik and Fidell (2006). Data entry was determined to be accurate after an examination of the ranges of

entered values was found to be within expected limits. Data were next screened for missing values. Thirteen missing values were discovered for items on the EI scale, and four missing values were discovered for items on the discrimination scale. Procedures for handling missing data outlined by Tabachnik and Fidell (2006) were followed, beginning with Little's Missing Completely at Random (MCAR) test. According to Tabachnik and Fidell, missing values in a data set can be replaced using one of several methods (e.g., grand mean of the sample, expectation maximization, regression) if the missing values are found to have been MCAR, rather than in some pattern which might be relevant to the analysis of the data. It is possible to make this determination by using Little's MCAR test in SPSS, whereby a non significant result indicates that the values were, in fact, MCAR (meaning the researcher can safely proceed with substituting for these values), and a significant result on this test indicates that there was a pattern to the missing values. In the present study, the thirteen missing values for EI were found to have been MCAR per a non significant result ($p = .214$) on Little's MCAR test, and substitution was made via the expectation maximization method available in SPSS. The missing values on perceptions of discrimination were not substituted for after a significant result ($p = .009$) was obtained on Little's MCAR test. Instead, cases with missing values on perceptions of discrimination were excluded from further analyses related to this variable.

Following preliminary screening of the data, total scores for perceptions of discrimination and trait emotional intelligence were obtained for each participant per the instructions for scoring the School Discrimination Scale and TEIQue—ASF,

respectively. Both instruments demonstrated acceptable internal consistencies and were therefore considered to be reliable measures of their respective constructs among this sample. Table 3 shows the internal consistencies for both the School Discrimination Scale ($\alpha = .835$) and TEIQue—ASF ($\alpha = .867$).

Table 3

Reliability Statistics

Scale	Cronbach's Alpha	N of Items
School Discrimination Scale	.835	7
TEIQue—ASF	.867	30

Demographics

Tables 4, 5, and 6 illustrate the key demographic characteristics of the sample, which was comprised of 79 participants after removal of the data for one participant who was Asian American and therefore not part of the target population. Of the remaining participants, 83.5% ($n = 66$) identified as African American and 16.5% ($n = 13$) identified as Latina/o. 63.3% ($n = 50$) of the participants identified as female, while the remaining 36.7% ($n = 29$) identified as male. The mean age of the sample was 17.47, with 12th graders making up the majority of the respondents (72.2%, $n = 57$). One participant did not report age.

Table 4

Ethnicity of Participants

	Frequency	Percent
African American	66	83.5
Latina/o	13	16.5
Total	79	100.0

Table 5

Gender of Participants

	Frequency	Percent
Male	29	36.7
Female	50	63.3
Total	79	100.0

Table 6

Age of Participants

	Age	Frequency	Percent
Valid	15	5	6.3
	16	11	13.9
	17	9	11.4
	18	49	62.0
	19	3	3.8
	20	1	1.3
	Total	78	98.7
Missing		1	1.3
Total		79	100.0

Descriptive Statistics

Table 7 illustrates the descriptive characteristics of the sample on the three continuous variables (perceptions of discrimination, emotional intelligence, and GPA). The GPA for each participant who reported a student identification number ($N = 78$) was gathered from the school's electronic student information system, with a mean GPA for the sample being calculated as 2.53 ($SD = .60$).

Seventy-five participants answered all seven questions on the School Discrimination Scale, with total scores ranging from 7 to 24 ($M = 11.29$, $SD = 4.57$). The minimum score possible on the School Discrimination Scale is 7 (i.e., student marks a response of "1" or "Never" for all seven items) and the maximum score is 35 (i.e., student marks a response of "5" or "Every Day" for all seven items). In this case, the mean score of 11.29 would correspond to an average response of 1.6 for each of the 7 items, which would fall between "1" ("Never") and "2" ("A Couple Times a Year").

After replacing the 13 missing responses for items on the TEIQue—ASF via expectation maximization as described above, a Global Trait Emotional Intelligence score was calculated for all 79 participants. These scores ranged from 88 to 203, with a mean score of 154.5 ($SD = 24.0$).

Table 7

Descriptive Statistics for Continuous Variables

	<i>N</i>	Minimum	Maximum	Mean	Std. Deviation
GPA	78	1.38	3.81	2.53	.60
Perceptions of Discrimination	75	7.00	24.0	11.29	4.57
Emotional Intelligence	79	88.10	203.0	154.51	24.0

Table 8 shows the correlations between emotional intelligence, perceptions of discrimination, gender, and GPA among the sample. Significant relationships were found to exist between emotional intelligence and perceptions of discrimination, as well as between gender and GPA. Both of these relationships will be discussed in more detail below.

Table 8

Correlations Between Study Variables

		1	2	3	4
1. Perceptions of Discrimination	Correlation	1.0	-.255*	-.220	-.099
	Sig. (2-tailed)		.027	.060	.396
	<i>N</i>	75	75	74	75
2. Emotional Intelligence Total	Correlation		1.0	.152	-.121
	Sig. (2-tailed)			.185	.289
	<i>N</i>		79	78	79
3. GPA	Correlation			1	.352**
	Sig. (2-tailed)				.002
	<i>N</i>			78	78
4. Gender	Correlation				1.0
	Sig. (2-tailed)				
	<i>N</i>				79

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

As illustrated by Tables 9 and 10, an independent samples *t*-test found that females ($M_{GPA} = 2.69$) had higher GPAs than did males ($M_{GPA} = 2.25$), and that this difference was statistically significant ($p = .002$).

Table 9

GPA by Gender

	Gender	<i>N</i>	Mean	Std. Deviation	Std. Error Mean
GPA	Male	29	2.25	.63	.12
	Female	49	2.69	.53	.08

Table 10

Independent Samples Test for GPA by Gender

	Levene's Test for Equality of Variances		<i>t</i> -test for Equality of Means							
	<i>F</i>	Sig.	<i>t</i>	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% CI of the Difference		
								Lower	Upper	
GPA	Equal variances assumed	.516	.475	-3.28	76	.002	-.44	.13	-.70	-.17
	Equal variances not assumed			-3.14	51.2	.003	-.44	.14	-.71	-.16

Testing the Assumptions for Multiple Regression

Before proceeding with the regression analyses used to answer the research questions, the data set was screened to ensure that it met the assumptions for using regression. According to Tabachnik and Fidell (2006), these assumptions are as follows: ratio of cases to independent variables (IVs); absence of outliers in both IVs and dependent variables (DVs); absence of multicollinearity and singularity; and normality, linearity, and homoscedasticity. A description of these preliminary analyses follows.

Ratio of Cases to IVs.

According to Tabachnik and Fidell (2006), a variety of methods can be used to determine the sample size necessary for carrying out a regression, but a simple rule of thumb for multiple regression would be $N \geq 50 + 8m$ (where m is the number of IVs). In the present study, no more than 2 independent variables will be tested at one time, and the necessary sample size for proceeding was therefore $N \geq 50 + 8(2)$, or 66. As such, the current sample size of 79 was determined to be sufficient for proceeding.

Absence of Outliers in Both IVs and DVs at the Multivariate Level.

Tabachnik and Fidell's (2006) procedure for detecting outliers in both IVs and DVs at the multivariate level was followed. First, a dummy DV was entered into a regression equation (in this instance, participant case number was used). Next, all three variables to be used in subsequent analyses (the two IVs [perceptions of discrimination and EI] and the DV, [GPA]) were entered as IVs in the equation. Prior to running the regression, SPSS was asked to save Mahalanobis distance for each case as a new variable. According to Tabachnik and Fidell, any case with a Mahalanobis distance

greater than the critical value for χ^2 with degrees of freedom equal to the number of variables (in this instance, 3) at the $p < .001$ level would be considered an outlier. Using the tables supplied by Tabachnik and Fidell, the critical value of χ^2 in this study was calculated to be 16.266. No case was found to have a Mahalanobis distance of greater than that value (with the largest being 11.508), and therefore no outliers were detected.

Absence of Multicollinearity and Singularity.

According to Tabachnik and Fidell (2006), multicollinearity occurs when two IVs are highly correlated ($r \geq .90$), while singularity occurs when two IVs are completely redundant. To determine the presence of multicollinearity among the variables in this study, Table 8 (above) was examined for correlations of $r \geq .90$. None were found, and multicollinearity and singularity were ruled out.

Normality, Linearity, and Homoscedasticity.

The three continuous variables were screened for normality, linearity, and homoscedasticity via examination of a residuals scatterplot per the recommendation of Tabachnik and Fidell (2006). All three assumptions were met in that the residuals (differences between obtained and predicted DV scores) were normally distributed about scores on the DV (GPA); the residuals had a straight-line relationship with the predicted DV scores; and the variance of the residuals about predicted DV scores was the same for all predicted scores.

Regression Procedures

As explained in Chapter 3, simultaneous multiple regression was used to answer the multivariate research questions throughout this study. The simultaneous regression

method was chosen above other methods on the recommendation of Tabachnik and Fidell (2006) due to the fact that no a priori theoretical reason was given for entering the IVs in any particular order. Upon completion of the regression analyses, the results were interpreted in the following manner. First, the R value of each regression model was examined for statistical significance by using the results of the Analysis of Variance (ANOVA, or F -test). Throughout this study, a significance level of $p \leq .05$ was used to determine the statistical significance of all findings. This decision was made on the recommendation of Mertler and Vannatta (2010) who indicated that this level of significance is widely used in social science research. Given a significant result on the F -test, the R value (and resulting R^2 and adjusted- R^2 values) for the model was then interpreted. R represents the multiple correlation coefficient of the equation, or the degree to which the IVs (perceptions of discrimination and EI) are correlated with the DV (GPA). R^2 represents the squared multiple correlation coefficient (also called the coefficient of determination), and represents the proportion of variance in the DV (GPA) explained by the combination of the IVs (EI and perceptions of discrimination). Adjusted- R^2 represents the amount of variance which the IVs would be expected to contribute to the DV among the population after adjusting for inflation of the R^2 statistic due to the problems inherent in predicting an outcome via sampling.

Following examination of the R statistics, the relationships between the IVs and DV were examined at the multivariate level using the coefficients table produced in SPSS. Three values are of critical important in this output: B (unstandardized regression coefficient), Beta (β ; standardized regression coefficients), and p (significance of the

correlation between the DV and each IV). First, the significance of the relationship between the DV and each IV was determined by examining the p value of the corresponding correlation, with values of $p \leq .05$ being considered significant. Given a significant value, the B and β values for that IV were interpreted. B (unstandardized regression coefficient) indicates the average change in the DV for each 1-unit change in the IV when the other IVs in the equation are held constant. For example, a B value of .05 in this study would indicate that for each 1-unit change in the IV, an average increase of .05 was observed in the GPA of participants when the other IVs were held constant. The β value (standardized regression coefficient) is similarly used to predict change in the DV based on change in the IVs, but this value is expressed in terms of standard deviation changes, rather than changes in absolute value, so as to allow for comparison across IVs with respect to how much impact a particular IV has on the DV.

Research Question 1

Given the results of the preliminary analyses, it was determined that multiple regression could be carried out according to the procedures outlined above in order to answer the research questions. Research question 1 asked, “To what degree does perceptions of discrimination and emotional intelligence predict GPA among African American and Latina/o high school students?” A simultaneous multiple regression using perceptions of discrimination and EI as IVs and GPA as the DV was carried out to answer this question.

Table 11 illustrates the results of the multiple regression analysis used to answer research question 1. The model was not statistically significant, $F(2, 71) = 2.098, p =$

.13, thereby indicating that the combination of perceptions of discrimination and EI did not contribute to the variance in GPA among the sample. As illustrated by Table 12, neither of the IVs was found to individually predict GPA in a statistically significant manner at the multivariate level, as indicated by significance values of $p > .05$ for both IVs.

Table 11

Model Summary

Model	<i>R</i>	<i>R</i> Square	Adjusted <i>R</i> Square	Std. Error of the Estimate	<i>R</i> Square Change	Change Statistics			Sig. <i>F</i> Change
						<i>F</i> Change	df1	df2	
1	.236 _a	.056	.029	.598	.056	2.098	2	71	.130

a. Predictors: (Constant), Emotional Intelligence Total, Perceptions of Discrimination

Table 12

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	<i>t</i>	Sig.
	<i>B</i>	Std. Error	Beta		
(Constant)	2.470	.538		4.591	.000
1					
Perceptions of Discrimination	-.026	.016	-.197	-1.651	.103
Emotional Intelligence Total	.002	.003	.089	.749	.456

a. Dependent Variable: GPA

Research Question 2

Research question 2 asked, “Does emotional intelligence moderate the relationship between individual perceptions of discrimination and GPA? If so, to what extent?” Despite the fact that neither perceptions of discrimination nor EI were found to be statistically significant predictors of GPA, a moderated regression analysis was carried out to test research question 2. First, in an effort to reduce multicollinearity, the two predictor variables were centered using the procedure laid out by Tabachnik and Fidell (2006), which involved creating a new score for each participant on the two IVs by subtracting the mean score of the overall sample from each participant’s score on the same variable. For example, the mean score for the sample on discrimination was found to be 11.29. To center this variable prior to the test for moderation, 11.29 was subtracted from the discrimination score of each participant to create a new variable called “discrimination-centered.”

Following the centering of the variables, the product of the centered variables (emotional intelligence X perceptions of discrimination) was then computed as a new variable in SPSS. To test for moderation, a regression model which simultaneously used the centered values for EI and perceptions of discrimination to predict GPA was compared to a model which added the interaction term described above. In such a test, a moderation relationship would be indicated by a significant β value for the interaction term. As illustrated by Table 13, the β value for the interaction term was not significant ($p = .827$), which indicates that no moderation relationship was detected among the sample.

Table 13

Coefficients^a (Emotional Intelligence Moderation Model)

	Model	Unstandardized Coefficients		Standardized Coefficients	<i>T</i>	Sig.
		<i>B</i>	Std. Error	Beta		
1	(Constant)	2.523	.070		36.283	.000
	EI	.002	.003	.089	.749	.456
	Discrimination	-.026	.016	-.197	-1.651	.103
2	(Constant)	2.526	.072		35.076	.000
	EI	.002	.003	.089	.739	.463
	Discrimination	-.025	.017	-.189	-1.505	.137
	Interaction: EI x Disc	.000	.001	.027	.219	.827

a. Dependent Variable: GPA

Research Question 3

Research question 3 asked, “Is there a significant difference, by gender, in the degree to which African American and Latina/o high school students perceive discrimination at school?” The results of an independent samples *t*-test carried out to answer this research question can be seen in Tables 14 and 15. A total of 75 participants (29 males, 46 females) both reported gender and had a total score for perceptions of discrimination. As illustrated by Table 14, the mean score on perceptions of discrimination was 11.86 for males and 10.93 for females.

Table 14

Group Statistics

	Gender	<i>N</i>	Mean	Std. Deviation	Std. Error Mean
Perceptions of Discrimination	Male	29	11.86	5.52	1.03
	Female	46	10.93	3.88	.57

As illustrated by Table 15, the difference on perceptions of discrimination between males and females was not statistically significant, $t(45) = .79, p = .434$, which indicates that males and females in the sample reported being discriminated against at school at approximately the same levels, with any difference between the two groups most likely being attributable to random chance.

Table 15

Independent Samples Test

		Levene's Test for Equality of Variances		<i>t</i> -test for Equality of Means						
		<i>F</i>	Sig.	<i>t</i>	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% CI of the Difference	
									Lower	Upper
Perceptions of Discrimination	Equal variances assumed	5.36	.023	.86	73	.396	.93	1.09	-1.24	3.09
	Equal variances not assumed			.79	45	.434	.93	1.17	-1.44	3.29

Research Question 4

Research question 4 asked, “Does gender moderate the relationship between individual perceptions of discrimination and GPA among African American and Latina/o high school students? If so, to what extent?” First, in an effort to reduce multicollinearity, the perceptions of discrimination variable was centered using the same procedures explained above for under research question 2. A new variable was computed in SPSS using the product of the centered discrimination variable and gender (perceptions of discrimination X gender). To test for moderation, a regression model which simultaneously used gender and the centered value for perceptions of discrimination to predict GPA was compared to a model which added the interaction term described above. In such a test, moderation would be indicated by a significant β value for the interaction term. As illustrated by Table 16, the β value for the interaction term was not significant ($p = .057$), but only by the thinnest of margins. Due to the fact that the model almost achieved statistical significance, further analyses were carried out to investigate the relationship between gender and the degree to which perceived discrimination predicted GPA among the sample. First, an interaction graph (see figure 2) was created to examine the relationships between these variables. The graph clearly illustrates a linear relationship between perceptions of discrimination and GPA among both males and females in the sample, with the relationship being much stronger in males as made apparent by the steeper slope of the line representing males.

Table 16

Coefficients^a (Gender Moderation Model)

Model	Unstandardized Coefficients		Standardized Coefficients	<i>T</i>	Sig.	
	<i>B</i>	Std. Error	Beta			
1	(Constant)	2.269	.105		21.603	.000
	Gender	.415	.135	.336	3.075	.003
	Discrimination	-.025	.014	-.187	-1.707	.092
2	(Constant)	2.283	.103		22.096	.000
	Gender	.412	.132	.334	3.113	.003
	Discrimination	-.049	.019	-.371	-2.583	.012
	Interaction: Gender x Disc	.055	.028	.277	1.932	.057

a. Dependent Variable: GPA

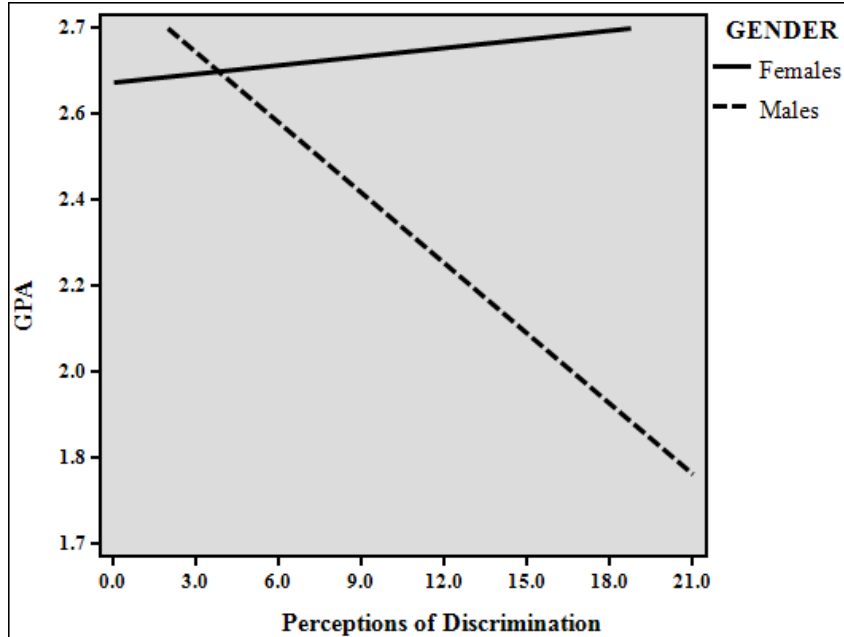


Figure 2. Graph illustrating the relationship between perceptions of discrimination and GPA among males and females in the sample.

Research Question 1 by Gender

At this point, research question 1 was revisited, and a separate regression analysis was carried out for each gender. This decision was made after considering the possible moderating role of gender observed in this study (see Figure 2), as well as the results of previous studies which found significant differences by gender in the degree to which perceptions of discrimination was related to GPA in African American and Latina/o students (Alfaro et al., 2009; Chavous et al., 2008; Cogburn et al., 2011). In this study, Research question 1 asked, “To what degree does perceptions of discrimination and emotional intelligence predict GPA among African American and Latina/o high school students?” To answer this question by gender, separate simultaneous regression analyses were run for males and females with perceptions of discrimination and EI as the IVs and

GPA as the DV. As illustrated by Table 18, the model for females was not statistically significant, $F(2, 42) = .189, p = .828$, and as illustrated by Table 19, neither IV was found to predict GPA in a statistically significant manner at the multivariate level among females as indicated by significance values of $p > .05$ for both IVs.

Table 18

Model Summary for Females

Model	<i>R</i> Gender = Female	<i>R</i> Square	Adjusted <i>R</i> Square	Std. Error of the Estimate	<i>R</i> Square Change	Change Statistics			
						<i>F</i> Change	df1	df2	Sig. <i>F</i> Change
1	.094 ^a	.009	-.038	.544	.009	.189	2	42	.828

a. Predictors: (Constant), Perceptions of Discrimination, Emotional Intelligence Total

Table 19

Coefficients^a (Model for Females)

Model		Unstandardized Coefficients		Standardized Coefficients	<i>t</i>	Sig.
		<i>B</i>	Std. Error	Beta		
1	(Constant)	2.314	.625		3.700	.001
	Perceptions of Discrimination	.008	.021	.058	.371	.712
	Emotional Intelligence Total	.002	.004	.084	.542	.591

Table 20 shows the result of the analysis for males. The resulting model was statistically significant, $F(2, 26) = 3.921, p = .032$. As explained above, the adjusted R^2

value of .173 indicates that these variables would be estimated to predict 17.3% of the variance in GPA among the population after accounting for the expected inflation in R due to the small size of the present sample and the inherent error with predicting change through sampling methodology.

Table 20

Model Summary for Males

Model	R Gender = Male	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			
						F Change	df1	df2	Sig. F Change
1	.481 ^a	.232	.173	.570	.232	3.921	2	26	.032

a. Predictors: (Constant), Perceptions of Discrimination, Emotional Intelligence Total

Table 21 shows the results of the analysis for males at the multivariate level. Interestingly, neither IV was found to be a significant predictor of GPA among males, as indicated by the $p \geq .05$ values for each IV. This result is somewhat unexpected given the significant R value for the overall model, and it indicates that the IVs only predict GPA among males in the sample when considered in combination. There are a variety of reasons for this possible result, including the possibility the result is due to the small size of the male sample ($N = 29$), which does not meet the threshold for sample size required to carry out multiple regression. Furthermore, the sample size required to carry out a univariate regression analysis (which uses only one IV to predict a DV) would be even larger, thereby making it likely that only the strongest of relationships (those with extremely high effect size) would be observed in a sample this small. These results are discussed in more detail in Chapter 5.

Table 21

Coefficients^{a,b} (Model for Males)

Model	Unstandardized Coefficients		Standardized Coefficients	<i>T</i>	Sig.
	<i>B</i>	Std. Error	Beta		
(Constant)	1.806	.866		2.085	.047
Perceptions of Discrimination	-.038	.021	-.338	-1.799	.084
1 Emotional Intelligence	.006	.005	.233	1.243	.225
Total					

a. Dependent Variable: GPA

b. Selecting only cases for which Gender = Male

Research Question 2 by Gender

In light of these findings, research question 2 was also revisited with the analyses being carried out by gender. Research question 2 asked, “Does emotional intelligence moderate the relationship between individual perceptions of discrimination and GPA? If so, to what extent?” First, in an effort to reduce multicollinearity, the two predictor variables were centered using the same procedure described above under research questions 2 and 4. The product of these centered variables (emotional intelligence X perceptions of discrimination) was then computed as a new variable. To test for moderation among females, a regression model which simultaneously used the centered values for emotional intelligence and perceptions of discrimination to predict GPA was compared to a model which added the interaction term described above. In such a test, moderation would be indicated by a significant β value for the interaction term. As illustrated by Table 22, the β value for the interaction term was not significant ($p = .630$),

which indicates that no moderation relationship was detected among females in the sample. Table 23 illustrates the results of the same analysis carried out for males. As was the case with females, no moderation relationship was detected as is evidenced by the non-significant β value for the interaction term ($p = .887$).

Table 22

Coefficients^{a,b} (Moderation Model for Females)

Model	Unstandardized Coefficients		Standardized Coefficients	<i>T</i>	Sig.
	<i>B</i>	Std. Error	Beta		
1	(Constant)	2.702	.083		32.743 .000
	EI	.002	.004	.084	.542 .591
	Discrimination	.008	.021	.058	.371 .712
2	(Constant)	2.694	.085		31.614 .000
	EI	.002	.004	.072	.452 .654
	Discrimination	.004	.023	.028	.165 .870
	EI x Disc	-.001	.001	-.081	-.486 .630

a. Dependent Variable: GPA

b. Selecting only cases for which Gender = Female

Table 23

Coefficients^{a,b} (Moderation Model for Males)

Model	Unstandardized Coefficients		Standardized Coefficients	<i>T</i>	Sig.
	<i>B</i>	Std. Error	Beta		
1	(Constant)	2.255	.109		20.757 .000
	EI--Centered	.006	.005	.233	1.243 .225
	Discrimination Centered	-.038	.021	-.338	-1.799 .084
2	(Constant)	2.249	.118		19.121 .000
	EI--Centered	.006	.005	.239	1.221 .234
	Discrimination Centered	-.039	.022	-.342	-1.764 .090
	EI X Disc	.000	.001	-.027	-.143 .887

a. Dependent Variable: GPA

b. Selecting only cases for which Gender = Male

This chapter presented the results of various statistical analyses carried out to examine the demographic characteristics of the sample and answer the research questions asked herein. The next chapter will discuss the results of these findings in more depth and present implications for educators and recommendations for future research in this area.

Chapter 5: Discussion

The goal of this study was to examine the relationships between emotional intelligence (EI), perceived discrimination, gender, and academic achievement (as measured by GPA) among African American and Latina/o high school students. This research is part of a larger body of literature focused on identifying factors, processes, and relationships which contribute to the development of academic resilience in students of color. This chapter discusses these findings in more depth and in relation to existing literature. Additionally, the limitations of the study, its implications for educators, and recommendations for future research will be presented.

Summary of Findings

This study preliminarily found that neither EI nor perceptions of discrimination predicted GPA among the sample. When analyses were carried out by gender due to the possibility that gender moderates the relationship between perceptions of discrimination and GPA, a significant model for predicting GPA through a combination of perceptions of discrimination and EI in male students, but not females, emerged. EI was not found to moderate the relationship between perceptions of discrimination and GPA in males, females, or the sample as a whole. The following section will discuss the results of the study by research question.

Research Question 1

Research question 1 addressed the value of EI and perceptions of discrimination in predicting the high school GPA of African American and Latina/o high school

students. As discussed in Chapter 2, a number of studies carried out in the past decade have discovered a relationship between EI and academic achievement among students of all ages (Hogan et al., 2010; Parker, Creque et al., 2004; Parker, Summerfeldt et al., 2004; Petrides et al., 2004). While it is not completely understood how EI might impact academic achievement, it has been suggested that students with high EI are better able than their peers to manage the stress and emotional difficulties sometimes associated with school, and that the impact of EI on academic achievement might be especially pronounced among certain disadvantaged groups of students (Petrides et al., 2004). While this might be the case, not all studies to this point have discovered a relationship between the two variables (Mavroveli & Sánchez-Ruiz 2011; Newsome, Day, & Catano, 2000), and researchers have called for more study into the issue (Humphrey et al., 2007), especially among diverse students who have largely been absent from previous studies of the topic (Morales & Trotman, 2010; Parker, Creque et al., 2004).

Student perceptions of discrimination on the basis of ethnicity have also been previously linked to the academic outcomes of African American and Latina/o students (Chavous et al., 2008; Neblett et al., 2006; Ogbu, 1987; Steele & Aronson, 1995), although not all studies on the matter have found a direct correlation between GPAs and reports of discrimination in school among students of color (Wong et al., 2003). Neblett et al. (2006) suggested further study of the matter and urged researchers to include variables which might moderate the relationship between academic achievement and perceptions of discrimination at school.

In this study, neither EI nor perceptions of discrimination was found to predict GPA in a statistically significant manner, alone or in combination, based on regression models which tested these relationships. In that way, these findings are at least somewhat surprising given that they run contrary to the preponderance of literature with regard to the relationship between academic achievement and both EI (Hogan et al., 2010; Parker, Creque et al., 2004; Parker, Summerfeldt et al., 2004; Petrides et al., 2004) and perceptions of discrimination (Chavous et al., 2008; Neblett et al., 2006). As will be discussed below, significant relationships began to emerge when the data was examined by gender, but it should still be noted that the IVs did not significantly predict GPA when the entire sample was considered.

While a variety of limitations associated with the study (discussed below) may have contributed to the lack of statistically significant relationships observed therein, it is also possible that no predictive relationships exist between the two IVs and GPA in the general student population. As noted by Mavroveli and Sánchez-Ruiz (2011), a number of studies have found no relationship between EI and academic achievement, especially after controlling for the effects of variables more commonly found to be related to success in school, such as cognitive ability. In fact, Mavroveli and Sánchez-Ruiz went so far as to say that the theoretical underpinnings of trait EI as a personality trait (and one which is completely unrelated to cognitive ability) should preclude it from being associated with academic achievement. In that way, the finding of this study with regard to EI is not completely unexpected. Furthermore, there is almost a complete lack of research which has investigated this relationship quantitatively and among a sample of

diverse students. The quantitative research which does exist has largely been done with White students, college students, and in European countries. As such, the study was undertaken from a neutral and investigative point of view whereby no a priori hypothesis was offered, and no finding would necessarily be considered a surprise.

With regard to the finding that perceptions of discrimination was not significantly related to academic achievement in the form of GPA, this outcome is also not completely unexpected. At least two previous studies (Alfaro et al., 2009; Wong et al., 2003) found that perceptions of discrimination was not directly related to GPA, although it was related to a variety of other factors considered important to school success, such as academic motivation, self-competency beliefs, and self-esteem. One study which did find a significant relationship between the variables (Cogburn et al., 2011) reported that relationship to be relatively small ($\beta = -.09$) as compared to other variables used to predict GPA, such as parent's level of education ($\beta = .25$), racial pride messages ($\beta = -.19$), and socialization behaviors ($\beta = .20$). Furthermore, the study by Cogburn and colleagues relied on self-reported GPAs rather than actual GPAs gathered from school records. This could have impacted any relationships discovered, as there is no way to tell to what degree self-reported GPA was correlated with actual GPA among that sample.

Another reason why perceptions of discrimination may not have predicted GPA among the current sample is that initial analyses were not done by gender. As will be discussed more extensively below, previous research has found that gender seems to play a role in the way African American and Latina/o students respond to discrimination with regard to academic achievement, with recent studies suggesting that the school outcomes

of males seem to suffer more than those of females as their perceptions of discrimination increase (Alfaro et al., 2009; Chavous et al., 2008; Cogburn et al., 2011). Upon further examination of the current study's data by gender, this phenomenon does seem to have been present to some degree. Since the majority of this sample was female, it is not surprising that no relationship was detected between perceptions of discrimination and GPA when the whole sample was considered, since this relationship seems to have been very weak or nonexistent among the females studied.

Regardless of the reasons, these findings add to the growing body of literature concerned with identifying factors and processes which impact the academic achievement of African American and Latina/o students. Ultimately, in the quest to discover which factors are the most important, the contributions of some variables to academic success will be identified as trivial or even nonexistent. Only by continuing to weed out these factors will researchers be able to truly solve the riddle of academic resilience.

Research Question 2

The inclusion of research question 2 was largely a response to the call by Neblett et al. (2006) to continue studying factors which may moderate the relationship between perceptions of discrimination and academic achievement among African American and Latina/o students. In this study, EI was included as a possible moderating factor based on the research of Petrides et al. (2004), who indicated that EI may play a larger role in the academic achievement of vulnerable or disadvantaged students, and Morales and Trotman (2010), who placed EI at the center of a theoretical model of academic resilience in which successful students of color are hypothesized to be making constant use of their

EI to draw upon the protective factors they possess in an effort to mitigate the impact of the risk factors to which they are exposed. To my knowledge, this study is the first which tests this relationship explicitly.

In this study, EI was not found to moderate the relationship between perceptions of discrimination and GPA among a sample of African American and Latina/o high school students. As will be discussed below, EI did seem to play some role in predicting the GPA of males in the sample when entered alongside perceptions of discrimination, but it did not function as a moderator of the relationship between perceptions of discrimination and GPA in either males or females. Although no previous research exists on the matter, the finding is somewhat surprising considering the theoretical foundations upon which it was built.

First and foremost, given the definition of EI as “one’s ability to recognize, process, and utilize emotion-laden information” (Petrides et al., 2004, p. 278), one might expect that students with high EI would be better able than their peers to deal with the anger, frustration, and rebelliousness which accompanies discrimination (Conchas, 2006; Ogbu, 1988). In this way, EI would be serving as a moderating variable, as students with low EI would have a hard time processing their feelings about the discrimination and making a choice not to let it negatively impact their academic performance, while students with high EI would be better able to sort through these complicated feelings, but all the while find the ability to rise above the discrimination and continue focusing on academic outcomes.

Secondly, a rather well-developed model of academic resilience based on extensive qualitative research with academically resilient college students of color (Morales & Trotman, 2010) suggested that EI may be at the very heart of the process by which academic resilience is formed and operates. According to Morales and Trotman, EI seemed to be the personality trait which best described the various personal qualities present among students in their sample, the combination of which allowed these students to recognize both the risk factors and protective factors present in their lives at any given time, and enabled them to make use of the protective factors to mitigate the negative impact which the risk factors could potentially have on academic achievement. In that way, one might expect to find that EI serves as a moderator between a potential risk factor (perceptions of discrimination) and an academic outcome (GPA). The fact that this relationship was not observed in the present study runs contrary to the theoretical framework described above, but as was the case with the previous research questions, the current study is the first which has quantitatively tested this relationship, and as such, an important response to literature which has called for more study into factors which might moderate this relationship.

Research Question 3

Research question 3 examined the extent to which African American and Latina/o male and female students differ in their perceptions of discrimination at school. When averaged out over the 7 items on the School Discrimination Scale, the levels of discrimination reported by both males and females ($M = 1.6$) were consistent with those reported in previous studies utilizing the same scale (Chavous et al., 2008; Wong et al.,

2003), and also in line with the findings of Cogburn et al. (2011), who measured discrimination with another instrument and reported that adolescents did not frequently experience discrimination.

In the current study, no statistically significant difference was observed in the levels at which males and females reported having been discriminated against at school. This finding supports most previous studies on the matter, although findings to this point have been mixed. Alfaro et al. (2009) also reported no difference between the levels of discrimination reported by Latino males and Latina females over the course of a 4-year longitudinal study. Cogburn et al. (2011) also reported no difference by gender in a sample of African American 8th grade students. Using the same data set as Cogburn and colleagues, Chavous et al. (2008) also detected no significant difference in reported discrimination by gender among the 8th grade students, but did observe a difference when these students reported discrimination in 11th grade, with males reporting significantly more discrimination than females. The latter finding supported the researchers' hypothesis that males would report more discrimination than females due to the negative stereotypes which exist in society around African American males as aggressive and anti-intellectual (Chavous, Harris, Rivas, Helaire, & Green, 2004; Cunningham, 1999), and previous findings that African American males receive harsher treatment in school than do females (Honora, 2002; Swanson, Cunningham, & Spencer, 2003).

Due to the fact that research findings to this point have been mixed with regard to the amount of discrimination male and female students of color report in school, the current study is important in that it adds to the sparse literature on the matter. That said,

perhaps even more important than the levels of discrimination reported by males and females, is the degree to which gender matters when it comes to the relationship between perceived discrimination and academic achievement. To that end, discussion of research question 4 follows.

Research Question 4

Research question 4 asked whether gender moderates the relationship between perceptions of discrimination and GPA. This question was included in response to findings by a variety of researchers (Alfaro et al., 2009; Chavous et al., 2008; Cogburn et al., 2011) which indicated that gender may play a role with regard to how perceptions of discrimination impact various academic outcomes. To that end, a test for moderation was carried out in the present study, with the resulting β value for the interaction term (perceptions of discrimination X gender) proving to be marginally statistically insignificant ($p = .057$), and a graph of the interaction (see figure 2) providing an interesting snapshot of the differences by gender in the degree to which perceptions of discrimination predicted GPA. Despite this, given the p value of slightly above .05, it must be stated that gender was not conclusively shown to have served as a moderator in the present study. Additional research into this matter does seem warranted, however, given the relatively clear differences in the way discrimination at school was related to the GPA of male and female students, despite the small sample size of the sample.

Given these apparent differences by gender, separate regression models were created for males and females with regard to the value of EI and perceptions of discrimination in predicting GPA. This method of analyzing the data seems warranted

given the methods and findings of previous researchers (Alfaro et al., 2009; Chavous et al., 2008; Cogburn et al., 2011) who considered African American male and female students as separate populations when carrying out analyses related to predictors of academic achievement, including perceptions of discrimination. As was the case in these previous studies, the separate analyses done here were useful in shedding light on the role of gender with regard to academic achievement, as a significant model emerged for predicting GPA in male students by perceptions of discrimination and EI, while the model for female students did not reach statistical significance.

The finding that gender may play a role in the academic achievement of African American and Latina/o high school students seems to support previous studies on the matter. Alfaro et al. (2009) found that perceptions of discrimination negatively predicted academic motivation in boys, but not girls, in a sample of Latina/o students who participated in a 4-year longitudinal study. Similarly, Cogburn et al. (2011) found a significant relationship between perceived discrimination and GPA in African American 8th grade boys, but not girls. Finally, Chavous et al. (2008) also reported a variety of strong correlations between discrimination and academic outcomes (GPA and school importance) in 8th and 11th grade African American boys, but found fewer of these relationships among the girls in the sample.

The reasons for these differences by gender are unclear. In explaining their findings with Latina/o students, Alfaro and colleagues (2009) pointed to previous research which found that Latina girls and Latino boys are socialized in different ways by their families (Azmitia & Brown, 2000; Valenzuela, 1999), with boys being encouraged

to explore the world outside of their families through relationships and involvement in extracurricular activities, while girls are encouraged to take on a traditional gender role and focus on the home and family (Bamaca, Umana-Taylor, Shin, & Alfaro, 2005; Raffaelli & Ontai, 2004; Ramirez, 1989). In that way, it is not a leap to imagine that Latino boys, encouraged to connect with the world outside of the family, might be more prone to suffering the negative impacts of discrimination from those with whom they have tried to connect than would their female counterparts.

With regard to African American students, Chavous and colleagues (2008) pointed to a variety of studies which found differences between boys and girls in the way they are socialized with regard to discrimination and academic achievement. For example, African American boys receive more messages from their parents about discrimination and the potential racial barriers they will face than do girls because of the aforementioned societal predilection to negatively stereotype African American males as aggressive, anti-intellectual jocks (Bowman & Howard, 1985; Coard, Wallace, Stevenson, & Brotman, 2004). Furthermore, Chavous and colleagues pointed out that African American males from lower SES backgrounds have been found to react to negative experiences in highly reactive ways, such as acting hyper-masculine (Cunningham, 1999; Swanson et al., 2003)—a response which would certainly not endear them to most educators. Other research has also found that African American boys tend to disengage from school earlier than do girls (Noguera, 2001), and that African American girls are more likely than males to be socialized by their families and communities to achieve academically (Chavous & Cogburn, 2007). Indeed, the present

study did find that female students had significantly higher GPAs than did males. As will be discussed below, much more research is needed around the differences between male and female students of color with regard to factors which impact their academic achievement.

EI and Perceptions of Discrimination

Another interesting finding was the negative correlation ($r = -.255$), albeit a relatively weak one (Mertler & Vannatta, 2010), between perceptions of discrimination and emotional intelligence (EI). Although this relationship was not addressed via one of the research questions, one might expect that students with high EI who are better able to read and process emotional information in themselves and others, would more readily recognize discrimination in even its most subtle forms, and that these students would therefore report higher levels of perceived discrimination at school. While that may be the case, the negative relationship between these variables observed in the present study suggests the opposite: that as EI increases in African American and Latina/o students, their perceptions of discrimination actually decrease. While the reasons for this relationship are unclear, two distinct possibilities exist. First, it is possible that students with high EI are treated differently in school than their peers with low EI (i.e., they are not discriminated against as frequently), and that this difference is due in part to the way in which high EI students are able to “play the game,” keeping their thoughts and feelings under control, and largely being able to read and influence the emotions of others. Another possible reason for this negative correlation would be that students with high EI differ from their peers with low EI in the degree to which they perceive certain actions by

teachers and peers to be discriminatory in nature (i.e., done to them because of their race). The School Discrimination Scale is a measure of the frequency with which a student experiences certain events at school due to their race. For example, one item reads, "At school, how often do you feel that teachers grade you harder than other kids due to your race?" It could be possible that students with high EI experience discrimination in the form of reduced grades just as often as their peers with low EI, but that they do not attribute these actions to discrimination.

Limitations

This study and its findings should be considered in light of the following limitations. First and foremost, the relatively small sample size presents several challenges with regard to statistical analysis. Perhaps most importantly, a small sample size makes it difficult to detect weak relationships or those with a small effect size. It could be that some of the relationships not detected in this study actually do exist in the population, but that a larger sample would be necessary to detect them. The small sample size also made it impossible to do analyses across ethnicities due to the relatively low number of Latina/o students who participated. Furthermore, when the sample was split and analyzed by gender, both the male ($n = 29$) and female ($n = 49$) samples fell below the necessary recommended size of 66 (Tabachnik & Fidell, 2006) for detecting a statistically significant relationship in a multiple regression which uses two IVs. Future research on this matter should try to achieve much larger sample sizes, paying particular attention the numbers of participants of each gender.

The design of the study also presents several limitations. Since the study was correlational, rather than experimental, it is impossible to attribute causality to any variable. Furthermore, the study was cross-sectional, or a snapshot in time, rather than longitudinal. Such designs make it impossible to study the impact of variables over time. Specifically as it relates to studies of academic resilience, cross-sectional studies do not contribute to an understanding of how academic resilience develops in students, nor can these studies account for fluctuations in the levels at which certain variables are present in the lives of students at different points in their academic careers. Such designs also preclude the study of outcomes such as high school graduation or college attendance rate.

Another limitation of this study related to its design is the fact that it utilized a convenience sample of students at one high school in a suburb of Minneapolis, rather than a random sample of students from a variety of schools. It is possible that many of the participants grew up in the same neighborhoods and attended the same schools, and that they therefore share common traits, characteristics, and experiences. Random sampling across a wider range of school sites in a variety of geographic locations would result in a sample that is more representative of the overall population.

Some final limitations to consider include those inherent to all studies which rely on self-report surveys for data collection. First, it is possible that students who chose to participate shared unique characteristics which made them more likely to respond to the researcher's request for participation. Conversely, students who chose not to participate may have shared other unique characteristics which were therefore not captured in the

results. It is also possible that participants self-reported in ways they deemed to be desirable, either to the researcher or to other students at the data collection sessions.

Implications for Educators

When integrated with previous literature on the topic of academic resilience in African American and Latina/o students, especially with regard to differences by gender, the present findings indicate a variety of implications for educators working with these populations. First and foremost, it seems important to consider the unique needs of male and female students, and to address these needs accordingly. The present study found that some combination of EI and perceptions of discrimination may be useful in predicting GPA among African American and Latino males, but not females. This finding was in line with previous research which also found differences among male and female students from African American and Latina/o backgrounds with regard to factors associated with academic achievement (Alfaro et al., 2009; Chavous et al., 2008; Cogburn et al., 2011). While the research in this area is far too underdeveloped to lead to any concrete conclusions, it does seem apparent that there are differences in the types of factors which put male and female students at-risk with regard to academic achievement, as well as the types of factors that may serve to mitigate these risk and lead to the development of academic resilience. In that way, educators are encouraged to be mindful of the unique needs of their African American and Latina/o male and female students when designing interventions to enhance their academic achievement. As will be discussed below, while there are certainly interventions which can and should be

implemented directly with or on behalf of all students of color, there may be interventions which would be most effective with students of one gender.

The findings of this study, as well as previous research on the matter, also seem to indicate that perceptions of discrimination may be linked to academic achievement in African American and Latina/o students, with this link being especially prevalent among males. While more research is indicated in this area, a number of good options exist for addressing discrimination at both the school-wide and individual level. Most importantly, it would seem that the best way to insulate all students of color from feeling the effects of discrimination at school would be to reduce the school's overall level of discrimination through outreach and education efforts which target both students and staff. While there is no universally recognized manner in which to address this issue, educators are first encouraged to investigate literature and professional development materials meant to expand the cultural awareness and skills of school staff such as those related to Culturally and Linguistically Responsive Teaching and Learning (Hollie, 2011) and Courageous Conversations about Race (Singleton, 2005). Educators are also encouraged to form student groups based on the principles of anti-racism such as those modeled on the Dare 2 Be Real groups (Insley, 2010; West Metro Education Program, 2013) found in the Minneapolis metropolitan area of MN. Since the needs and population of each school are unique, there cannot possibly be one universal way to form and lead student groups such as Dare 2 Be Real. That said, all avenues for doing so should be explored, as groups such as these offer educators the means for not only

enhancing the cultural awareness of members, but also providing opportunities for school-wide change through peer education and intervention.

Beyond decreasing the level of discrimination present in their schools, educators are also encouraged to explore interventions which may serve to protect individual students of color from the impacts of the discrimination they do experience. Such interventions may be especially important for male students of color who have been shown to be especially at-risk for school disengagement (Noguera, 2001) and negative academic outcomes (Chavous et al., 2008; Cogburn et al., 2011) as a result of discrimination at school. To that end, some studies have shown that increased ethnic identity may mitigate the impact of discrimination on Latina/o students (Umana-Taylor, Vargas-Chanes, Garcia, & Gonzales-Backen, 2008). Other studies have found that strong group connectedness (O'Connor, 1999; Sanders, 1997; Ward, 1990) and a positive group identity (Wong et al., 2003) can shield students from the negative impacts which discrimination can have on academic achievement. As such, interested teachers and school counselors are encouraged to form groups with African American and Latina/o students with the goal of increasing both positive connectedness (especially to one's ethnicity) and group identity, as well as enhancing ethnic identity. Reading the theoretical work done in this area by researchers such as Phinney and Chavira (1992), as well as descriptions of groups such as "The Brotherhood" which have been successfully implemented in schools (Wyatt, 2009) may begin to help educators design groups for their own students.

Another factor which may serve to protect African American and Latina/o students from the harmful effects of discrimination is emotional intelligence (EI). Despite the findings of this study, a preponderance of the literature still points to a link between EI and academic achievement in the general population. Furthermore, some academic resilience researchers (Morales & Trotman, 2010) believe that EI may be especially important in facilitating academic achievement among students of color. While much more study is needed in this area, educators would be wise to seek out opportunities to promote EI in all students, but most especially in their students of color. To that end, one piece of literature which may be instructive to educators is the study done by Nelis et al. (2009) in which the researchers were able to increase the EI of participants who received four training sessions of 150 minutes each in which lectures, role plays, journaling, reading, and group discussions were implemented. Interested teachers and school counselors may find that they are able to locate and modify other such interventions for use in student groups or classroom guidance lessons which could be taught over the course of 8 to 10 sessions.

Recommendations for Future Research

There is a great need for research related to academic resilience, including further investigation of the variables addressed in this study. One major gap in the literature is the lack of longitudinal studies which examine the development of academic resilience over time by measuring the presence and impact of both protective and risk factors at different points in the educational experience of African American and Latina/o students. Academic resilience is most likely not a static trait which can be accurately measured at a

single point. As has previously been pointed out by other researchers (Martin & Marsh, 2009; Morales & Trotman, 2010) it is more likely that academic resilience ebbs and flows over time as students are exposed to multiple risk factors and respond by making use of the various protective factors to which they have access at that time. As such, longitudinal studies would seem to be the ideal vehicle by which to study the concept. Furthermore, longitudinal studies would allow for the study of long-term outcomes other than GPA, such as high school graduation, college attendance, and academic achievement in college.

In an effort to produce more concrete theories of academic resilience, researchers are encouraged to continue testing hypotheses related to the development of academic resilience and the processes by which specific protective factors work together, rather than simply identifying protective factors in isolation (Morales, 2010). To that end, researchers should test more complicated hypotheses related to how risk factors, protective factors, and outcomes interact, including moderation, mediation, and curvilinear relationships. As more of these relationships are identified, it is hoped that the actual process by which resilience forms in students of color will be better understood, and therefore more easily taught or transferred to more of these students.

Another topic for investigation in the area of academic resilience is the study of factors which are important in the lives of students from specific ethnic backgrounds (E. Morales, personal communication, October 24, 2012). Researchers should not assume that all students of color come to academic resilience via the same processes, but rather, should aim to recruit and classify research participants according to more specific ethnic

categories such as Puerto Rican or Mexican rather than Latina/o, and Somali or Jamaican rather than African American. By attempting to understand whether or not differences exist in the way academic resilience manifests in students according to their specific ethnic backgrounds, researchers will better inform the practice of educators who are working with specific groups of students and searching for strategies, protective factors, and processes which have been found to promote academic resilience in students of that background.

It is also recommended that research continue into the variables investigated in this study. Foremost in importance seems to be further study of the role of gender in the academic resilience process. The results of this study clearly indicate significant differences by gender among African American and Latina/o students with regard to GPA, as well as the degree to which perceived discrimination and emotional intelligence predict academic achievement. While the existence of these relationships may be important, the process by which gender plays a role is not fully understood. Researchers are encouraged to pursue multiple research paths with regard to this question, including examination of the ways in which African American and Latina/o males and females are socialized through the messages they receive from their families, communities, and schools, as well as the ways in which these messages are manifested in students' responses to discrimination. As mentioned above, researchers have speculated that differences may exist between males and females in this regard (Alfaro et al., 2009; Chavous et al., 2008; Cogburn et al., 2011). It would also be interesting to study whether males and females differ in their response to risk factors other than discrimination, and to

what degree various protective factors mitigate the impact of these risk factors with regard to academic achievement.

Continued study of the role played by emotional intelligence in the academic achievement of students of color is also encouraged. This area of the literature is in its infancy, and most studies on the matter have been carried out with samples largely comprised of White students. As mentioned above, the results of such studies have been mixed, and no conclusive link has been established between the variables. With regard to students of color, despite the strong theoretical underpinnings for why such a relationship might exist, far more studies need to be carried out in this area before any conclusions can be drawn. The results of the current study, which indicate that trait emotional intelligence may play a role in the academic achievement of African American and Latina/o males, but not their female counterparts, may open up paths for future investigation of the matter. Additionally, studies which operationalize and measure emotional intelligence differently (i.e., ability emotional intelligence) will enhance this area of the literature.

Research should also continue into the relationship between academic achievement and student perceptions of discrimination at school. While several studies to date have discovered a link between the variables (Alfaro et al., 2009; Chavous et al., 2008; Cogburn et al., 2011), the overall body of research in this area is still relatively sparse, and the emerging finding that gender may moderate this relationship is not fully understood. Further research into this matter is recommended. Additionally, more study is needed on the correlation between student perceptions of discrimination and observer

ratings of discrimination. Studies of this kind would shed more light on the types of interactions and events that students perceive to be discriminatory. A final recommendation would be the use of mixed methods studies which not only measure the levels of discrimination students perceive at school, but also allow for the inclusion of qualitative data focused on the ways in which students experience this discrimination and the degree to which it impacts their academic achievement.

Conclusion

The growing body of research related to academic resilience in African American and Latina/o adolescents is based on the premise that a better understanding of how and why some of these students are able to overcome the odds and succeed in school can serve as a helpful starting point for promoting success in all students of color. While it is important to continue studying the achievement gap between students of color and their White counterparts from every angle, including speculating on the reasons it has continued to persist, the traditionally deficit based approach to studying the issue has largely outlived its usefulness in that it provides very little to educators in the way of concrete strategies for promoting student success. While it may be interesting to consider the possibility that historical opportunity gaps or major funding deficiencies have contributed to the achievement gap, the teachers, school counselors, and other educators who are in direct contact with students on a daily basis have little to no control over these issues, and as such, may derive greater benefit from the study of factors which contribute to academic resilience—especially those over which they might exert some influence. The study of protective factors and processes present in the lives of academically resilient

students presents the perfect opportunity to do just that, and indeed, the research to this point has shed light on the importance of many psychosocial and interpersonal characteristics of academically resilient students which educators might be able to address.

While emotional intelligence may not hold the key to academic resilience, it appears to be one of many factors which play a role in the academic success of some students of color, and in that way, a small piece of the academic resilience puzzle. Researchers are encouraged to continue studying the multitudes of African American and Latina/o youth who have achieved success at school in an effort to identify other protective factors and processes at work in their lives, as well as to establish concrete theories of how academic resilience develops in these students and how it might be fostered in their peers.

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Appendix A (Demographic Survey)

Thank you for agreeing to take this survey. It should take no longer than 20 minutes. Start by answering the questions below.

STUDENT ID #: _____ GRADE: _____

CUMULATIVE GRADE POINT AVERAGE (G.P.A.): _____

DO YOU RECEIVE FREE OR REDUCED PRICE SCHOOL LUNCH?:

_____ *Yes* _____ *No*

GENDER:

_____ *Male* _____ *Female*

RACE:

_____ *African American*

_____ *Hispanic/Latino*

_____ *Other (Please write here: _____)*

COUNTRY WHERE YOU WERE BORN:

_____ *United States of America*

_____ *Other (Please write here: _____)*

LANGUAGE YOU SPEAK AT HOME:

_____ *English*

_____ *Spanish*

_____ *Somali*

_____ *Other (please write here: _____)*

Appendix B (TEIQue—ASF)

Instructions: Please answer by putting a circle around the number that best shows how much you agree or disagree with each sentence below. If you strongly disagree with a sentence, circle a number close to 1. If you strongly agree with a sentence, circle a number close to 7. If you're not too sure if you agree or disagree, circle a number close to 4. Work quickly, but carefully. There are no right or wrong answers.

	Disagree				Agree		
1. It's easy for me to talk about my feelings to other people	1	2	3	4	5	6	7
2. I often find it hard to see things from someone else's point of view	1	2	3	4	5	6	7
3. I'm a very motivated person.	1	2	3	4	5	6	7
4. I find it hard to control my feelings.	1	2	3	4	5	6	7
5. My life is not enjoyable.	1	2	3	4	5	6	7
6. I'm good at getting along with my classmates.	1	2	3	4	5	6	7
7. I change my mind often.	1	2	3	4	5	6	7
8. I find it hard to know exactly what emotion I'm feeling.	1	2	3	4	5	6	7
9. I'm comfortable with the way I look.	1	2	3	4	5	6	7
10. I find it hard to stand up for my rights.	1	2	3	4	5	6	7
11. I can make other people feel better when I want to.	1	2	3	4	5	6	7
12. Sometimes, I think my whole life is going to be miserable.	1	2	3	4	5	6	7
13. Sometimes, others complain that I treat them badly.	1	2	3	4	5	6	7
14. I find it hard to cope when things change in my life.	1	2	3	4	5	6	7
15. I'm able to deal with stress.	1	2	3	4	5	6	7
16. I don't know how to show the people close to me that I care about them.	1	2	3	4	5	6	7
17. I'm able to "get into someone else's shoes" and feel their emotions.	1	2	3	4	5	6	7
18. I find it hard to keep myself motivated.	1	2	3	4	5	6	7
19. I can control my anger when I want to.	1	2	3	4	5	6	7
20. I'm happy with my life.	1	2	3	4	5	6	7
21. I would describe myself as a good negotiator.	1	2	3	4	5	6	7
22. Sometimes, I get involved in things I later wish I could get out of.	1	2	3	4	5	6	7
23. I pay a lot of attention to my feelings.	1	2	3	4	5	6	7
24. I feel good about myself.	1	2	3	4	5	6	7
25. I tend to "back down" even if I know I'm right.	1	2	3	4	5	6	7
26. I'm unable to change the way other people feel.	1	2	3	4	5	6	7
27. I believe that things will work out fine in my life.	1	2	3	4	5	6	7
28. Sometimes, I wish I had a better relationship with my parents.	1	2	3	4	5	6	7
29. I'm able to cope well in new environments.	1	2	3	4	5	6	7
30. I try to control my thoughts and not worry too much about things.	1	2	3	4	5	6	7

Appendix C (School Discrimination Scale)

Please circle the answer that best describes what school is like for you.

At school, how often do you feel...

1. that teachers call on you less often than they call on other kids because of your race?

(1)	(2)	(3)	(4)	(5)
NEVER	A COUPLE TIMES EACH YEAR	A COUPLE TIMES EACH MONTH	ONCE OR TWICE EACH WEEK	EVERY DAY

2. that teachers grade you harder than other kids because of your race?

(1)	(2)	(3)	(4)	(5)
-----	-----	-----	-----	-----

3. that you get disciplined more harshly by teachers than other kids because of your race?

(1)	(2)	(3)	(4)	(5)
-----	-----	-----	-----	-----

4. that teachers think you are less smart than you really are because of your race?

(1)	(2)	(3)	(4)	(5)
-----	-----	-----	-----	-----

5. like you are not picked for certain teams or other school activities because of your race?

(1)	(2)	(3)	(4)	(5)
-----	-----	-----	-----	-----

6. that you get in fights with some kids because of your race?

(1)	(2)	(3)	(4)	(5)
-----	-----	-----	-----	-----

7. that kids do not want to hang out with you because of your race?

(1)	(2)	(3)	(4)	(5)
-----	-----	-----	-----	-----