

SHAPING STUDENT OUTCOMES: THE RELEVANCE OF PERCEIVED DISCRIMINATION
FOR 2ND GENERATION MINORITY ADOLESCENTS

A Thesis

Presented to

The Faculty of the Department

of Sociology

University of Houston

In Partial Fulfillment

Of the Requirements for the Degree of

Master of Arts

By

Fanni Farago

December, 2018

SHAPING STUDENT OUTCOMES: THE RELEVANCE OF PERCEIVED
DISCRIMINATION FOR 2ND GENERATION MINORITY ADOLESCENTS

Fanni Farago, Student

APPROVED:

Maria Monserud, Ph.D.
Committee Chair

A. Gary Dworkin, Ph.D.

Sheara Williams Jennings, Ph.D.

Antonio D. Tillis, Ph.D.
Dean, College of Liberal Arts and Social Sciences
Department of Hispanic Studies

SHAPING STUDENT OUTCOMES: THE RELEVANCE OF PERCEIVED DISCRIMINATION
FOR 2ND GENERATION MINORITY ADOLESCENTS

An Abstract

Presented to

The Faculty of the Department

of Sociology

University of Houston

In Partial Fulfillment

Of the Requirements for the Degree of

Master of Arts

By

Fanni Farago

December, 2018

ABSTRACT

This study investigated the relationship between different sources of discrimination (i.e., societal, institutional, and peer) and academic outcomes (i.e., academic performance, aspirations, and attitude for achievement) among second-generation immigrant high school students (N = 3,115) of several racial/ethnic groups (non-Hispanic Whites, Blacks, Latinos, Asians, and Other (e.g., Cuban, West-Indian, and Islander identities)). Specifically, the impact of race/ethnicity, school climate, and family cohesion on perceived discrimination and academic outcomes was examined. Results indicated that different sources of discrimination had varying effects on academic outcomes. Unexpectedly, perceptions of peer discrimination predicted improved academic performance and greater academic aspirations. As expected, stronger perceived institutional discrimination predicted lower academic performance. Additionally, distinct racial/ethnic self-labels and aspects of school climate, along with family cohesion, uniquely interacted with academic outcomes and sources of discrimination. Notably, a Black self-label moderated the impact of societal discrimination on students' attitude for academic achievement, while family cohesion moderated its impact on aspirations and attitude for achievement. The findings on the beneficial implications of perceived peer discrimination for academic outcomes contradict prior research. Theoretical models by Bronfenbrenner and Garcia Coll and colleagues help contextualize findings for minority adolescents.

ACKNOWLEDGMENTS

My thesis journey was filled with many struggles, but alas, I am here celebrating the end of this process. However, I would not be at this stage without the support of many different people.

I am deeply grateful for Dr. Monserud's dedication and guidance; I would not have been able to complete this project without her. I am also thankful to Dr. Dworkin's and Dr. Williams Jennings' valuable feedback.

I am also eternally grateful to my sister, Flora, my parents, Mami and Papi, and my boyfriend, Fernando, for the countless ways in which they offered their support. In many ways, this project exists because of their unwavering encouragement.

Additionally, I couldn't have made it through without Laura, my dearest, warm-hearted friend and colleague who shared with me my ups and downs throughout my writing process.

While this breaks conventions for writing the acknowledgment section, I would also like to recognize myself. I poured more sweat and tears into this project than any other work endeavor. It was my most difficult professionalization experience to date yet I didn't give up. So I want to thank myself for not giving up and for learning many lessons from this process that will help me produce and improve future similar projects.

TABLE OF CONTENTS

| | |
|---|-------|
| CHAPTER 1: INTRODUCTION..... | 1-2 |
| CHAPTER 2: THEORETICAL FRAMEWORKS..... | 3-7 |
| Ecological Systems Theory..... | 3-5 |
| An Integrative Model for the Study of Developmental Competencies in Minority Children..... | 5-7 |
| CHAPTER 3: LITERATURE REVIEW..... | 8-24 |
| Conceptualizing Discrimination..... | 8-9 |
| Sources of Perceived Discrimination..... | 9-12 |
| Perceived Discrimination and Academic Outcomes..... | 12-18 |
| Importance of Additional Factors..... | 18-24 |
| CHAPTER 4: METHODS..... | 25-33 |
| CHAPTER 5: RESULTS..... | 34-39 |
| Descriptive Results..... | 34-35 |
| Racial/Ethnic Differences in Academic Outcomes and Perceived Discrimination..... | 35 |
| Regression Results..... | 35-39 |
| CHAPTER 6: DISCUSSION..... | 40-50 |
| Impact of Perceived Discrimination on Academic Outcomes..... | 40-43 |

| | |
|--|-------|
| Impact of Additional Variables..... | 43-46 |
| Importance of Moderators..... | 46-48 |
| Limitations..... | 48-50 |
| CHAPTER 7: CONCLUSION..... | 51 |
| REFERENCES..... | 52-61 |
| TABLES | 62-66 |
| Table 1: Descriptive Statistics for Study Variables..... | 62 |
| Table 2: Racial/Ethnic Differences in Academic Outcomes and Perceived Discrimination..... | 63 |
| Table 3: Summary of OLS Regression Analyses for Variables Predicting Academic Performance..... | 64 |
| Table 4: Summary of OLS Regression Analyses for Variables Predicting Academic Aspirations..... | 65 |
| Table 5: Summary of OLS Regression Analyses for Variables Predicting Attitude for Academic Achievement..... | 66 |

CHAPTER 1

INTRODUCTION

Compared to their non-Hispanic white peers, adolescents belonging to racial and ethnic minority groups, particularly minority adolescents of immigrant backgrounds, are at greater risk of differential treatment within the school context. Experiences and perceptions of discrimination are commonly reported forms of differential treatment Latino, Asian, and Black students encounter at school (Brown 2015). A substantial amount of research documents the impact of perceived discrimination on adolescents' psychological outcomes (e.g., self-esteem, depressive symptoms, behavioral problems) (Hughes et al. 2016; Niwa et al. 2014; Chang et al. 2013; Huynh and Fuligni 2010; Benner and Kim 2009; Hwang and Goto 2008; Brody et al. 2006; Greene et al. 2006). Researchers have also examined the impact of perceived discrimination on substance use (Acosta et al. 2015) and ethnic identity development (Baldwin-White et al. 2017; Greene et al. 2006; Mossakowski 2003). However, studies on the academic consequences of perceived discrimination have been relatively scarce. Racial and ethnic minorities' well-being within the school context is particularly important to examine because school-related academic and social dynamics can have long-term implications for their ability to navigate life course transitions and attain social mobility. Moreover, for minority youth of immigrant backgrounds, academic well-being may have a lasting impact on their overall social adaptation process.

The present study draws on data from the Children of Immigrants Longitudinal Study (CILS; 1991 – 2006). This dataset is unique in its comprehensive assessment of 2nd generation immigrant children's adaptation outcomes within the U.S. context (Portes and Hao 2004). It also offers useful information for understanding the relationship between perceived discrimination and academic outcomes before and after the pivotal event of September 11, 2001. Following this

event, there was increased racial/ethnic profiling of minorities by law enforcement agencies, especially of non-White, Arab, or Middle Eastern appearing immigrants (Schildkraut 2009). Additionally, there was more public concern in America about immigrants, illegal immigration, and a fear of becoming a victim of terrorism (Gallup 2017a; Gallup 2017b). My study draws on data collected prior to 2001 and thus offers a valuable historical perspective on the associations between perceived discrimination and academic outcomes for Latino, Asian, and Black 2nd generation immigrant adolescents compared to their and non-Hispanic White peers. Overall, this exploratory study contributes to a small but growing body of research about perceived discrimination and academic outcomes in three main respects. First, the present study examines the implications of three different sources of perceived discrimination (e.g., society, educational institutions, and peers) on academic outcomes, whereas the majority of prior research focused on one source of discrimination or used a composite measure of different sources (for the few exceptions see Tummala-Narra et al. 2013; Greene et al. 2006; Stone and Han 2005). Second, the current study extends prior research by considering three components of academic outcomes identified in the literature: 1) standardized performance measure (i.e., grades, academic achievement); 2) academic self-perception or how capable students perceive themselves to be in school (i.e., academic aspirations) and, 3) academic motivation to succeed in school (i.e., academic attitudes) (Brown 2015). In contrast, most previous studies have conceptualized academic outcomes as a one-dimensional construct measured on the basis of academic performance. Third, this study will focus on academic outcomes across several ethnic/racial groups among 2nd generation immigrants, which has been under investigated in prior research.

CHAPTER 2

THEORETICAL FRAMEWORKS

Ecological Systems Theory (Bronfenbrenner 1979)

Urie Bronfenbrenner developed Ecological Systems Theory to explain how individuals' social and psychological development may be shaped by their social relationships and the society around them. This theory has been used in prior research to explain how immigrant and minority children's psychological well-being and academic functioning is impacted by different social contexts that they are simultaneously embedded in, such as their school and home environment (Benner and Graham 2013; Chavous et al. 2008; Ying and Han 2006). Bronfenbrenner argued that everything in a person's environment may affect their development and he thus created a 5-level system to clarify his idea: 1) the microsystem, 2) the mesosystem, 3) the exosystem, 4) the macrosystem, and 5) the chronosystem.

The microsystem refers to a child's immediate and closest ecological context, the one that he/she regularly and directly engages with in their lives. For example, relationships with family members, peers, and caregivers at home, in daycare, and in school have critical developmental implications for children's microsystem. The home, daycare, and school are all examples of different settings a child's microsystem can exist in. Bronfenbrenner considered the microsystem as the most influential level of the ecological systems theory. The second-level, or the mesosystem is defined as a child's ecological context that exists between various microsystems (e.g., family and peers). The meso-and-micro systems mutually exert influence on a child's development. For instance, parents' relationships with their children's teachers or parental involvement in school activities is an interaction between a child's family and school microsystems, and in turn, the two overlapping ecological contexts may positively affect a

student's development at school. The third-level, or the exosystem refers to the influence that surrounding events/settings may have on a child's development, even if they are not actively involved in the events. This may include family decisions to move or to make children switch schools, decisions that would developmentally affect students even though they did not actively participate in the decision-making process. A second example would be a parent's change of occupation, such as losing a job or getting a promotion. The fourth-level, or the macrosystem involves the broader cultural, political, and economic environment individuals live in. This level of analysis would be especially useful for comparative studies that examine how students' academic outcomes compare across different cultural contexts. Lastly, the fifth-level, or the chronosystem is made up of the environmental and sociohistorical events and transitions that occur throughout a child's life.

Researchers have used Bronfenbrenner's ecological development theory to conceptualize schools as multilayered systems that are affected by internal and external factors. Externally, the school's geographical context, the surrounding area's poverty rates, and the students' family microsystems may exert influence on how adolescents develop within the school environment. Internally, students' experiences and various aspects of a school's culture, such as grade retention policies, teachers' expectations for their students, students' relations with one another, and students' beliefs about their school experiences (e.g., school valuing and school climate) are influential factors for adolescents' academic development (Irvin, Byun, Meece, et al. 2011). The majority of the literature on perceived discrimination and academic outcomes of immigrant and minority youth relies on Bronfenbenner's ecological development theory to explain how perceived discrimination, along with other contextual and individual variables, impact

adolescents' academic success (Benner and Graham 2013; Chavous et al. 2008; Ying and Han 2006).

In spite of researchers' extensive reliance on Bronfenbrenner's traditional developmental theory to explore the relationship between perceived discrimination and academic outcomes, a shortcoming of this theory is that it does not explicitly differentiate between the individual and group level developmental factors/contexts of minority and non-minority children. Hence, Ecological Systems Theory can only offer a broader explanation of how discrimination may impact minority and immigrant youth's academic outcomes. For a more specific explanation of this relationship, an additional theory is needed, one that considers whether and how youth's developmental processes vary by minority status.

An Integrative Model for the Study of Developmental Competencies in Minority Children

Garcia Coll and colleagues (1996) supplemented Bronfenbrenner's theory by proposing a developmental model specific for minority children's "unique ecological circumstances" of social oppression, prejudice, discrimination, and multilayered racial segregation. This model considers eight constructs that shape minority children's development: 1) social position factors (e.g., race/ethnicity, gender, and social class), 2) systemic forces of differential treatment (e.g., racism, discrimination, oppression), 3) multilayered segregation (e.g., physical, social, psychological, and economic), 4) promoting/inhibiting environments (i.e., schools, neighborhoods, and health care systems), 5) adaptive cultures (e.g., racial/ethnic socialization), 6) child characteristics (e.g., age, health status), 7) family (e.g., structure, roles, and values), and, 8) developmental competencies (e.g., cognitive, social, and emotional) (Garcia Coll et al. 1996). In essence, Garcia Coll's model of child development expands and complements Bronfenbrenner's holistic model by emphasizing minority children's unique ecological

circumstances and by outlining how these factors differentially shape their development within traditional and interrelated ecological contexts, such as families, schools, and broader society (Garcia Coll et al. 1996).

Within academic institutions, this model also suggests that discrimination may indirectly influence student achievement by strengthening an unfavorable learning environment, or an ‘inhibiting context’, within a school or within individual classrooms (Garcia Coll et al. 1996). The creation of an inhibiting context is influenced by both macro-system (e.g., societal discrimination and social position) factors and by social interactions in which the student perceives or experiences discriminatory treatment (e.g., student-school personnel interactions). An inhibiting context may be a discouraging learning environment in which a student’s academic development is hindered by such factors as poor-quality instruction, limited support from school personnel, and restricted access to high-quality educational resources (e.g., well-designed curricula, quality textbooks, etc.). The opposite of an inhibiting environment is a promoting one that includes such components as high-quality instruction, supportive student-teacher relationships, and adequate school resources (Garcia Coll et al. 1996). Theoretically, minority students’ academic development may be influenced by their simultaneous participation in inhibiting and promoting environments within and outside of schools.

According to this theoretical model, how children cope with perceived discrimination is related to their racial/ethnic group’s and family’s ‘adaptive culture’. Adaptive culture is a complex, multidimensional concept that broadly refers to culturally accepted coping strategies (e.g., racial and ethnic socialization) minority groups employ to remain resilient to discrimination. Cultural factors, including traditions, group histories, and migration/acculturation patterns, actively shape the development of group coping strategies. This aspect of the model

suggests that family and community relationships may be particularly important for helping minority children cope with discrimination.

Several recent studies have used Garcia Coll and colleagues' theoretical model to explain the following patterns: 1. Relationship between social position factors (i.e., race/ethnicity and gender) and likelihood of perceiving discrimination, 2. Impact of perceived discrimination on academic outcomes, and 3. Possible moderating variables of perceived discrimination (e.g., racial/ethnic identity and school climate) (Benner and Graham 2011; Greene et al. 2006; Stone and Han 2004). One study also discussed immigrant parents' use of ethnic/racial socialization and passing down their cultural heritage (e.g., language, history) as expressions of cultural coping mechanisms for discrimination (Romero, Gonzalez, and Smith 2014).

CHAPTER 3

LITERATURE REVIEW

Conceptualizing Discrimination

In general, social science researchers have defined the concept of discrimination in terms of behaviors or perceptions. The behavioral definition of discrimination typically understands the concept as overt or covert maltreatment of a person/s because of their membership in a social group (Aboud and Amato 2001). Meanwhile, cognitive definitions of discrimination, or perceived discrimination, reflect personal experiences of overt or covert mistreatment by others due to their group membership (Benner and Graham 2013). In particular, perceived discrimination indicates varied attitudes and assessment of discrimination including prejudices, stigmas, and stereotypes (Nelson 2009). Two main elements of the concept of perceived discrimination are: 1. An individual's understanding that their social identity or group membership can shape how other people treat them; and, 2. An individual's evaluation of their treatment by others as unfair and undeserved (Major, Quinton, and McCoy 2002). Some scholars argue that it is important to distinguish between behaviors and cognitions of discrimination because individuals can misperceive their discriminatory treatment (Pager and Shepherd 2008). On the contrary, others argue that this distinction is not necessarily that crucial because false cognitions might be experienced as real and thus result in behavioral outcomes (*self-fulfilling prophecy*) (Merton 1948). Although it is important to consider misperceptions of discrimination in self-reported measures of discrimination (Pager and Shepherd 2008), this issue is beyond the scope of the present study.

The present research conceptualizes discrimination as perceived discrimination for two main reasons. First, although the very premise of this study supports the idea of the self-fulfilling

prophecy, it is necessary to continue clarifying the relationship between different aspects (i.e. cognitive versus behavioral) of discrimination and any related academic outcomes. This is especially important because of the inconsistency in findings and conceptualizations of discrimination in relevant prior research. Second, the Children of Immigrants Longitudinal Study (CILS) provides a self-reported measure of discrimination that offers limited information on the circumstances of the discriminatory event. However, by relying on CILS measures of explicit perceptions of discrimination (i.e., “Did you feel discriminated against?”), the study contributes to the available sociological research in this area by treating perceived discrimination as an essential socio-psychological variable for understanding academic outcomes across different social groups (Pager and Shepherd 2008). Specifically, the present study focuses on whether and how academic outcomes are contingent on respondents’ perceived discrimination within and outside of the school context (i.e., *in broader society*). Prior research has highlighted perceived discrimination as one of the influential factors that shape academic outcomes.

Sources of Perceived Discrimination

The literature delineates 4 main sources of perceived discrimination relating to the school context: 1. Societal discrimination (Yang and Ham 2017; Benner and Graham 2013; Seaton and Yip 2009); 2. Community discrimination (Brown and Chu 2012); 3. Adult or Institutional discrimination (Brown and Chu 2012; Greene, Way, and Pahl 2006; Faircloth, Beverly, and Hamm 2005; Stone and Han 2005); and, 5. Peer discrimination (Hughes et al. 2016; Niwa et al. 2014; Brown and Chu 2012; Huynh and Fuligni 2010; Waters and Kasinitz 2010; Greene, Way, and Pahl 2006).

Societal discrimination generally refers to the differential treatment of social groups within the broader cultural, economic, historical, political, and legal contexts that schools are

situated within (Pager and Shepherd 2008). Social science researchers often label societal discrimination as institutional, structural, or systemic versus interpersonal (Yang and Ham 2017; Benner and Graham 2013; Pager and Shepherd 2008; Seaton and Yip 2009). However, researchers have measured societal discrimination by capturing whether respondents perceived that they were treated unfairly by individual societal figures, such as store assistants, police officers, security guards, and restaurant staff (Benner and Graham 2013; Fisher et al. 2000).

Community discrimination indicates unequal treatment of certain groups within a school's local neighborhood context (Brown and Chu 2012). Community discrimination can manifest itself in discriminatory behavior (e.g., residential segregation) or in perceived discrimination (e.g., xenophobic or racist attitudes) (Brown and Chu 2012). There has been a paucity of research on the relationship between community discrimination and academic outcomes.

From a developmental psychology perspective, adult discrimination is defined as a form of interpersonal discrimination whereby school personnel, including teachers, counselors, and administrative staff differentially treat students because of some aspect of their social identity (Brown and Chu 2012; Greene, Way, and Pahl 2006; Faircloth, Beverly, and Hamm 2005; Stone and Han 2005). Examples of adult discrimination include unfair grading, grade retention, stereotyping, academic tracking, teacher prejudice, unjust disciplinary actions, low expectations for student performance, and ignoring students (Brown and Chu 2012; Greene, Way, and Pahl 2006; Faircloth, Beverly, and Hamm 2005; Stone and Han 2005; and, Garcia 2001). In contrast, sociologists consider adult discrimination by school personnel as a form of institutional discrimination. From a sociological point of view, schools represent social institutions and its personnel control access to education, which can be understood as a form of societal good,

service, or opportunity (Rosenbloom and Way 2004). Students who are discriminated against by school personnel have unequal access to education and its benefits compared to their peers who do not experience this type of discrimination. Therefore, targets of school discrimination are subjected to more than just instances of interpersonal or adult discrimination. The sociological literature largely focuses on four main types of school-level or institutional discrimination: 1. Grade retention (Andrew 2014; Hughes, Kwok, and Im 2013; Martin 2011; Stearns et al. 2007); 2. Academic tracking (Steenbergen-Hu, Makel, and Olszewski-Kubilius 2016); 3. Teachers' Perceptions (Dee 2005; Rosenbloom and Way 2004); and, 4. Disproportional disciplinary actions (Mizel et al. 2016; Arcia 2007; Mendez and Knoff 2003; Skiba et al. 2000). Grade retention refers to school policies and practices of holding students back from advancing to the next grade-level. Academic tracking, also referred to as ability grouping, is the controversial practice of dividing students into different groups based on their skill levels. Teachers' perceptions indicate a variety of cognitions including biases, stereotypes, or expectations that teachers rely on to subjectively evaluate their students' academic abilities. Lastly, disciplinary actions indicate school practices of correcting bad student behavior; these practices may include anything from taking away recess privileges, referring students to the principal's office, suspending them, or expelling them (Mizel et al. 2016; Arcia 2007; Mendez and Knoff 2003; Skiba et al. 2000). These 4 types of institutional discrimination are typically thought of as covert, "within-school processes" that have inadvertent, and often negative, consequences for minority students' learning experiences (Hallinan 2000). However, there are also internal and external factors to the school that promote students' resiliency to discrimination, which will be discussed under the section entitled "Importance of Additional Factors."

Fisher (2000) measured the concept of institutional discrimination interchangeably with

adult discrimination and captured it by the following interpersonal behaviors: 1. You were discouraged from joining an advanced level class; 2. You were given a lower grade than you deserved; 3. People expected more of you than they expected of others your age; 4. You were wrongly disciplined or given after-school detention. I will follow this precedent and use the terms adult and institutional discrimination interchangeably throughout the manuscript.

Finally, peer discrimination refers to students' unfair treatment of other, select students because of their group membership (Hughes et al. 2016; Niwa et al. 2014; Brown and Chu 2012; Huynh and Fuligni 2010; Waters and Kasnitz 2010; Greene, Way, and Pahl 2006). Examples of peer discrimination include exclusion from group activities, name-calling, insulting, or other forms of overt or covert physical or psychological harassment (Brown and Chu 2012; Brown and Bigler 2005).

PERCEIVED DISCRIMINATION AND ACADEMIC OUTCOMES

Societal Discrimination and Academic Outcomes

Academic performance. A recent study by Benner and Graham (2013) examined the impact of perceived societal discrimination on academic performance and found that it was not predictive of academic performance among Latino, African American, and Asian youth.

However, other studies of societal discrimination have shown that residential segregation negatively impacts Latino and African Americans' academic achievement (Clotfelder 2004; Orfield 2002). It may be that students' academic performance is less impacted by perceptions versus practices of societal discrimination, the effects of which are more difficult to counteract for students and their families.

Academic aspirations. Educational aspirations refer to a person's capacity to develop motivations, expectations, hopes, desires, and ambitions for higher education (Cheng and Starks

2002; Domina, Conley, and Farkas 2011; Qian, Zenchao, and Sampson L. Blair 1999). All of these terms have been often used interchangeably with aspirations and thus it is unclear how academic aspirations, defined as the long-term academic goals respondents hope to achieve (i.e., college graduation), are related to perceived societal discrimination. One study by Gomez and colleagues (2014) found no relationship between perceived societal discrimination (measured as public regard) and educational aspirations among Latino adolescents (Gomez et al. 2014). Instead, students' goal of attending college was more likely to be influenced by their local neighborhood and school environments. The study's findings suggest that students who have supportive neighborhood and school networks can remain resilient to perceived societal discrimination, and thus maintain long-term academic aspirations.

Another study on Latino students demonstrated that greater levels of general perceived discrimination were related to lowered academic aspirations (Lehman 2011). One explanation for this finding is that Latino students may internalize prevalent negative stereotypes about their professional abilities (i.e., Latinos are only fit for manual jobs) and these negative self-perceptions may then lower students' long-term school aspirations (Kao 2000). A second plausible explanation is that Latino students belong to an ethnic/racial minority group in the U.S. that is disproportionately targeted by discrimination in varied social contexts, including the school, neighborhood, and the broader social context. These discriminatory experiences across contexts may have a cumulative negative impact on Latino students' aspirations for their future, such as their long-term academic goals (Lehman 2011).

Academic attitudes. There are few studies that have examined the relationship between perceived societal discrimination and academic attitudes of immigrant adolescents. In part, this scarcity of research may be explained by the fact that researchers rely on varied concepts, such

as public regard and racial awareness, to capture perceived societal discrimination. Public regard refers to an individual's feelings of how others in society view their racial or ethnic group (Borsato 2008), while racial awareness indicates an individual's beliefs about how different racial/ethnic groups (including their own) are perceived and treated by society (Benner and Graham 2013). For example, Rivas-Drake (2011) measured public regard in terms of students' perceptions of school personnel's beliefs towards racial/ethnic groups, while Benner and Graham (2013) conceptualized racial awareness separately from perceived societal discrimination, arguing that perceived discrimination indicated personal experiences versus beliefs of discrimination. Additionally, researchers have similarly captured academic attitudes under different and broader concepts, such as academic engagement (Hughes et al. 2016; Rivas-Drake 2011; Chavous et al. 2008) or academic adjustment (Benner and Graham 2013; Benner and Kim 2009).

In spite of these differences in terminology and conceptualizations, research has shown that Latino students who hold perceptions of positive public regard at school are more likely to be academically engaged than those who hold perceptions of negative public regard (Rivas-Drake 2011). One explanation Rivas-Drake (2011) offered for this relationship is that students' perceptions of an ethnically/racially inclusive academic environment may facilitate the development of more supportive relationships between students and school personnel, which in turn may promote students' academic engagement.

Research on non-immigrant, African American adolescents has demonstrated that higher perceptions of societal discrimination are related to more negative academic attitudes, but only in families with less involved parents (Tang, McLoyd, and Hallman 2016). According to this study, parents can exert a protective influence on the development of their children's school attitudes by

socializing them to cope with negative cultural messages about their racial group; negative messages that may otherwise be internalized by children raised in family contexts with less parental involvement. Another possible explanation for Tang and colleagues' (2016) finding is that higher perceptions of societal discrimination may promote students' mistrust of their academic institution, which could in turn inhibit the formation of supportive student-teacher relationships, which may then negatively influence students' academic attitudes towards their school experiences (Rivas-Drake 2011).

Institutional/Adult Discrimination and Academic Outcomes

Academic performance. Several studies have examined the impact of perceived institutional discrimination on academic performance (Benner and Graham 2013; Brown and Chu 2012; Benner and Graham 2011; Chavous et al. 2008; Ying and Han 2006; and, Stone and Han 2005). Overall, research indicates that greater institutional discrimination is directly associated with poorer academic performance among immigrant youth (Benner and Graham 2013; Ying and Han 2006; and, Faircloth and Hamm 2005). For instance, Benner and Graham (2013) found that greater institutional discrimination from school personnel was related to poorer academic performance across gender and all racial/ethnic groups (Latinos, primarily Mexicans, African Americans, and Asians, primarily Chinese and Koreans). Relatedly, Ying and Han (2006) also demonstrated that perceived institutional discrimination resulted in lowered academic performance among Filipino students. Prior research also suggests that institutional discrimination is indirectly related to poorer academic performance through different moderating variables, such as school climate (Benner and Graham 2011; Stone and Han 2005) and school characteristics (e.g., size and racial/ethnic composition) (Brown and Chu 2012). These and other variables will be discussed in detail under the section entitled "Importance of Additional

Factors”.

Academic aspirations. Studies that have investigated the relationship between perceived institutional discrimination and aspirations showed mixed findings and focused on Latino samples. On the one hand, Spees, Perreira, and Fuligni (2017) found that greater perceived school-based discrimination was related to lower aspirations among Latino high school students. Other related research similarly suggests that discrimination by teachers (e.g., stereotyping and low-expectations) disproportionately affects minority students and contributes to their higher drop out rates, implying that institutional discrimination is at least indirectly associated with lower school aspirations (Lewis 2004; Quiroz 2001). On the other hand, Abdelhady and Lutz (2016) interviewed a group of 25 Mexican high school graduates that reported no perceptions or experiences of institutional discrimination and instead highlighted their teachers’ supportive role in their academic outcomes. This finding parallels the emerging pattern of teachers acting as ‘agents of ethnic mobility’, or supportive mentors within schools who show minority students how to thrive in America’s racially divided educational system (Flores 2017). This raises the important question of whether perceptions of discrimination are moderated by supportive student-teacher relationships. The present study explores this question to a limited extent by capturing students’ perceptions of their teachers within the broader concept of school climate (this matter is discussed in more detail under the section titled *Importance of Additional Factors*). Abdelhady and Lutz (2016) also pointed out that other factors, such as heavy family obligations and lower level of parental education, may be more limiting to Mexican students’ college aspirations than perceived discrimination.

Academic attitudes. Overall, prior research shows that greater perceived institutional discrimination from teachers is associated with lower academic attitudes (Brown and Chu 2012;

Benner and Kim 2009; Chavous et al. 2008). However, Brown and Chu (2012) revealed that it is important to take into account additional factors because after they controlled for school composition, no association was found between institutional discrimination and academic attitudes for Mexican students attending primarily Latino schools. The authors relied on the person-context fit model to explain this finding. According to this model, people who fit into their surrounding social context may be protected against negative outcomes of perceived stressors. Within the school context, minority students may be resilient to perceived institutional discrimination, if they are part of an ethnically/racially similar cohort that shares and validates those perceptions as normal (Bellmore, Witkow, Graham, and Juvonen 2004).

Peer Discrimination and Academic Outcomes

Academic performance. One available study in this area by Benner and Graham (2013) demonstrated that peer discrimination may be more closely related to psychological than academic maladjustment. Their findings show that while peer discrimination may increase students' depressive symptoms, it may have a neutral impact on students' academic performance. This finding reinforces the idea that teachers may be more influential authority figures for students' academic achievement than their peers. Another study by Nakamoto and Schwartz (2010) conducted a meta-analytic review of 33 studies and found that peer discrimination was related to slightly worse academic performance for their mixed sample of elementary, junior high, and high school students. However, their review included only four studies with adolescent samples and they did not compare the impact of peer discrimination across these different student groups.

Academic aspirations. Recent research has not *explicitly* examined the relationship between perceived peer discrimination and academic aspirations of high school students.

However, a new longitudinal study of peer victimization patterns from kindergarten to high school found that students who were persistently harassed developed a worse academic self-perception overtime (i.e., lower perceived academic competence) than their non-victimized peers (Ladd, Ettekal, and Kochenderfer-Ladd 2017). Relatedly, a Swedish study of immigrant adolescents demonstrated that experiences of peer ethnic harassment negatively impacted their academic self-concept (i.e., immigrant youths' expectations for academic failure increased) (Bayram Özdemir 2014).

Academic attitudes. Prior research shows that greater peer discrimination may be related to lower academic attitudes for minority youth (Bayram Özdemir 2014; Perreira et al. 2010; Chavous et al. 2008). This relationship is not surprising given the significant role peers play as a reference group for the formation of adolescents' self-concept. It is therefore possible that students who perceive peer discrimination may develop more negative attitudes about their academic abilities and potential for success in school. Various studies also suggest that Asian American students more frequently perceive peer discrimination than students from other cultural backgrounds (Greene et al. 2006; Rosenbloom and Way 2004; Fisher et al. 2000). Asian American students are often stereotyped as a model minority group within the school context, or a group that is very successful academically. This stereotype may negatively impact Asian American students' ability to fit in with and be accepted by their peers (Bellmore et al. 2012; Qin et al. 2008). However, more research needs to explore whether more frequent perception of peer discrimination results in more negative academic attitudes of Asian Americans versus students from other minority groups.

Importance of Additional Factors

Previous research consistently shows that racial/ethnic identity, school climate, and

school context measured by such characteristics as minority composition, poverty rate, and school size can make a difference in the impact of perceived discrimination on academic outcomes (Brown and Chu 2012; Huynh and Fuligni 2010; Dotterer, McHale, and Crouter 2009; Benner and Kim 2009; Chavous et al. 2008; and, Green, Way, Pahl 2006).

Racial/ethnic identity (i.e. Self-reported labels of race/ethnicity). While perceived discrimination has generally been shown to adversely affect academic outcomes, a positive racial/ethnic identity has been found to promote academic success in the face of perceived discrimination (Garcia Coll and Marks 2009). Scholars understand racial/ethnic identity as a multidimensional construct and have found that its dimensions of centrality (i.e., how important individuals consider their race/ethnicity to be for their self-concept) and regard (i.e., how individuals feel toward their racial/ethnic group) can impact academic outcomes (Brown and Chu 2012; Wakefield and Hudley 2007). In particular, research shows that a strong racial/ethnic identity may diminish the detrimental effects of perceived discrimination (Brown and Chu 2012; Green, Way, Pahl 2006). Adolescents who have a strong racial/ethnic identity may be protected against the negative impact of discrimination because their self-concept is grounded more in their group versus personal identity. In addition, they are able to seek social and psychological support from their racial/ethnic group that individuals with a weaker racial/ethnic identity may not have access to. While racial and ethnic identity could be considered as unique aspects of adolescents' identity development, the present study does not differentiate between these two constructs. Instead, given the exploratory nature of this study, I conduct a broader investigation of the connection between immigrant youth's self-reported racial/ethnic labels, their academic outcomes, and different sources of perceived discrimination. It is important to acknowledge that self-reported labels of race/ethnicity are just one aspect of the more complex construct of racial

and ethnic identity. Therefore, the results of this study will yield findings limited to how this specific dimension of racial/ethnic identity impacts the relationship between perceived discrimination and academic outcomes.

School climate. Recent research suggests that perceived school climate might make a difference in the relationships between perceived discrimination and academic outcomes (Benner and Graham 2013; Benner and Graham 2011; Stone and Han 2005). School climate refers to students' feelings towards and perceptions of their school environment, such as school belonging, safety, and support (Benner and Graham 2013; Stone and Han 2005). Research shows that greater perceived discrimination is associated with poorer perceptions of school climate (Stone and Han 2005) that are in turn related to lower academic performance, aspirations, and school engagement (Benner and Graham 2013; Eamon 2005; Stone and Han 2005). Research has also demonstrated that more positive perceptions of school climate are related to lower perceived discrimination and higher academic performance (Benner and Graham 2011).

Family cohesion. Family cohesion refers to the strength of personal relationships an individual shares with their family members. In cohesive family units, members feel close and connected with each other and parents are highly involved in their children's lives, while in non-cohesive family units, family members feel disconnected and alienated from each other and participate little in each other's lives. A close parent-child connection, typically measured as parental involvement, is considered particularly important for promoting children's psychological, social, and educational development. Parental involvement in their children's education can be measured in many ways, including in terms of their involvement within and outside of the school context. In relation to native-born parents, immigrant parents, especially Asians and Latinos, may be less likely to be involved within the school context (e.g., joining

parent-teacher organizations) because of various challenges they may face (e.g., language barrier, irregular legal-status, or other cultural barriers) (Crosnoe and Turley 2011; St. Hilaire 2002). Instead, Asian and Latino immigrant parents tend to be most involved in their children's education outside of the school context. For example, Asian parents tend to set high educational expectations for their children, actively encourage them to set goals for their future, financially support their children's extracurricular activities, and persistently communicate with their children about the importance of their education (Crosnoe and Turley 2011). Meanwhile, Latino parents typically encourage their children to develop a strong work ethic and to strive for higher educational goals than the previous generation in the family (Crosnoe and Turley 2011). These differences in forms of parental involvement are important to keep in mind because some research has shown that parental involvement outside of the school context (i.e. parents' expectations) may be less likely to translate into better academic aspirations among Asian and Latino youth (Cheng and Starks 2002).

Previous studies also show that a host of other factors including the following may make a difference in academic outcomes: gender, age, length of residence in the U.S., socio-economic status, and such school factors as annual dropout and attendance rate, along with other aspects of school context (i.e., school size, poverty rate, and type of school attended).

Gender. Research generally indicates that, on average, boys perform better in math and science, while girls perform better in reading (Becares and Priest 2015; Buchmann et al. 2008). Explanations for this gendered pattern include differences in socialization practices and stereotyping tendencies within families, educational institutions, and American society (Becares and Priest 2015; Buchmann et al. 2008). As discussed previously, socialization practices within the Hispanic community may also limit both males' and females' long-term educational

aspirations (Abdelhady and Lutz 2016). Parents may encourage their boys to work for pay and their girls to fulfill family obligations after their completion of high school (Spees et al 2017).

Age. There seem to be conflicting findings on whether educational outcomes increase or decrease with age. For example, some research shows that older students may have decreased aspirations due to burnout, while it has also been suggested that aspirations may increase with age as students figure out what they want to achieve long-term (Qian and Blair 1999).

Additionally, an older study by Velez (1989) suggested that being older was related to higher high school drop-out rates among Mexican-American, non-Hispanic White, and Puerto Rican students.

Length of residence in USA. Research shows support for the *immigrant paradox* in the relationship between length of residence and academic outcomes. This pattern generally indicates that as the length of residency increases, immigrant youth's educational achievement decreases (Roche et al. 2017). The immigrant paradox seems to be most pronounced for Asian and African immigrant students, followed by Mexican and Central American students (Roche et al. 2017; Crosnoe and Turley 2011). A possible explanation for this trend is that first generation Asian and African immigrant students tend to come from more educated and socio-economically advantaged backgrounds than Latino youth, who may thus face more risks to school readiness (Roche et al. 2017; Crosnoe and Turley 2011). As the length of residency increases, 2nd and 3rd generation immigrant students' academic outcomes may decline in the face of increasing hardships such as poverty, social isolation, and discrimination (Roche et al. 2017). Other explanations for the immigrant paradox include that 1st generation migrants are more hopeful about their future in the U.S.A. and they are more likely to view education as a means to success compared to subsequent generations (Kao and Thompson 2003).

Socio-economic status. Scholars have extensively studied how socio-economic status (SES) characteristics impact academic outcomes across racial/ethnic groups. SES is typically measured on the basis of family income and the parents' educational and occupational attainment. Asian and White households tend to have the highest SES status on the basis of parents' level of educational and occupational attainment, and household income. Black and Latino families tend to have lower SES with parents possessing lower educational and occupational attainment, and the families having higher rates of poverty (Roche et al. 2017; Qian and Blair 1999). Broadly speaking, students from families with higher SES may have higher academic outcomes (e.g., standardized performance and expectations) than students from socio-economically disadvantaged families (Goyette 2008).

School attendance and annual dropout rate. High school dropouts and students with less attendance have worse academic outcomes and lower educational attainment than students who graduate from high school (Kao and Thompson 2003). Some data shows that overall Asians have the lowest probability of dropping out, followed by Whites, Blacks, and Hispanics (Kao and Thompson 2003). Differences in socio-economic background across racial/ethnic groups help explain these variances in dropout rates.

School context. Previous studies also considered how school characteristics, such as minority composition of the student body, school size, poverty rate, and school personnel's attitudes towards diversity affect academic outcomes. For example, some research has shown that diversity of school staff and teachers' pro-diversity attitudes may positively impact academic attitudes and performance among Latino students (Benner and Graham 2009; Richards, Brown, and Forde 2007; Bryan and Atwater 2002). Relatedly, other research demonstrates that a more diverse student body is related to students' stronger sense of school belonging and safety

(Juvonen et al. 2006). However, greater student body diversity has also been linked to more perceived discrimination for Latino and African American students (Benner and Graham 2011; Seaton and Yip 2009). These contradicting findings may in part be explained by taking into consideration the students' racial/ethnic experiences in middle school (Benner and Graham 2011). For example, Latino and Black students who transition from a primarily White student body in middle school to a more diverse one in high school may experience a stronger sense of belonging and acceptance in their new school context, where they may find peers who share their racial/ethnic background. In contrast, minority students who originate from racially/ethnically homogenous middle school contexts may negatively experience becoming a numerical and cultural minority within a more diverse student body.

CHAPTER 4

METHODS

The main goal of this study is to examine the consequences of perceived discrimination on academic outcomes across several racial and ethnic groups of adolescents: non-Hispanic Whites, Latinos, Asians, Blacks, and Other (e.g., Cuban, West-Indian, and Islander identities). Specifically, the study investigates how different sources (i.e., societal, institutional, and peer) of perceived discrimination affect the following academic outcomes: academic performance, aspirations, and attitudes. On the basis of Ecological Systems Theory, an Integrative Model for the Study of Developmental Competencies in Minority Children, and prior research, the present study poses the following research questions:

1. Are the 3 different sources of perceived discrimination considered in the present study important for academic outcomes?
2. Do the implications of these 3 sources of perceived discrimination vary across racial and ethnic groups examined in this study?
3. Does school climate have an impact on the consequences of these 3 sources of perceived discrimination for academic outcomes?
4. Does family cohesion have an impact on the consequences of these 3 sources of perceived discrimination for academic outcomes?

This study used data from Wave 2 of the Children of Immigrants Longitudinal Study (CILS). CILS (1991, 1995, and 2006) is a three-wave national longitudinal survey on the acculturation process of second-generation immigrant youth from their early adolescence to young adulthood (ICPSR 2017). The CILS included a sample of 8th through 12th graders living in Miami, Fort Lauderdale, and San Diego. The concept of second-generation was broadly defined

both as children born in the United States with at least one foreign-born parent, and as children born abroad but brought at an early age to the United States (ICPSR 2017). Wave 2 of data collection occurred in 1995 and a sample of 4,288 respondents were retained or 81.5 percent of the original sample (ICPSR 2017). The average age of the respondents was 17 years old and the sampled students were high school seniors (ICPSR 2017). Wave 2 specifically focused on changes in acculturation outcomes (e.g., language proficiency, racial/ethnic identity, and self-esteem) and also on the high school dropout rate of the original sample (ICPSR 2017).

Sample

The original sample size was 4, 288 high school adolescents surveyed during the 2nd wave of the CILS. However, after the missing cases were excluded, the study relied on the valid sample size of 3,115 non-Hispanic White youth, Latino, Asian, and Black, as well as respondents categorized as “Other” (e.g., Cuban, West-Indian, and Islander identities) because of their distinctive racial/ethnic identities and their population’s small sample size.

Measures

Three dependent variables measuring academic outcomes were examined in the present study:

Academic performance. Academic performance was measured on a 5-point scale GPA ranging from A to F (0 = F and 5 = A). This variable was only available for CILS 1.

Academic aspirations. Academic aspirations were captured with the following question: “What is the highest level of education that you would like to achieve? (1. *Less than high school*, 2. *Finish high school*, 3. *Finish some college*, 4. *Finish college*, and 5. *Finish a graduate degree*).

Attitude for academic achievement. This variable was assessed with responses to the following statement: “It is very important to me to get good grades” (1. *Very true*, 2. *Partly true*, 3. *Not very true*, and 4. *Not true at all*). For the regression analysis, the response categories for this question were reverse-coded so that the answers ranged from low importance to high importance (1. *Not true at all*, 2. *Not very true*, 3. *Partly true*, and 4. *Very true*).

Three key independent variables captured the different sources of discrimination:

Perceived Societal Discrimination. Perceived societal discrimination was measured with the respondents’ responses to following statement: “There is racial discrimination in economic opportunities in the U.S.” Respondents were asked to indicate the extent to which they agreed with this statement on a 4-point Likert scale (1. *Agree a lot*, 2. *Agree a little*, 3. *Disagree a little*, and 4. *Disagree a lot*). For the regression analysis, this question was reverse coded so that the response categories ranged from low to high perceived societal discrimination (1. *Disagree a lot*, 2. *Disagree a little*, 3. *Agree a little*, and 4. *Agree a lot*).

Perceived Institutional Discrimination. Institutional discrimination in the school context captured whether students felt discriminated against by teachers or counselors. A new variable was created on the basis of three questions: 1. “Have you ever felt discriminated against?” (1. *Yes*, 2. *No*); 2. “And by whom did you feel discriminated? (Teachers) (1. *Yes*, 2. *No*)” and, 3. “And by whom did you feel discriminated? (Counselors) (1. *Yes*, 2. *No*).” If respondents answered “yes” to these three questions, institutional discrimination was coded as 0 = *No*, 1 = *Yes*.

Perceived Peer Discrimination. Peer discrimination in the school context assessed whether students felt discriminated against by other students. This variable was constructed using two questions: 1. “Have you ever felt discriminated against?” (1. *Yes*, 2. *No*); and, 2. “And

by whom did you feel discriminated? (Peers) (1. *Yes*, 2. *No*).” If respondents answered “yes” to both questions, peer discrimination was coded as 0 = *No*, 1 = *Yes*.

Additional independent variables measured *race/ethnicity* and *school climate*:

Self-reported label of race/ethnicity. CILS-2 measured participants’ racial/ethnic background based on their self-reported group labels. I created a set of dummy variables to examine the impact of racial/ethnic self-labeling on the academic outcomes of perceived discrimination: *non-Hispanic White* (reference category), *Latino*, *Asian*, *Black*, and *Other* (0 = *No*, 1 = *Yes*).

Given the exploratory nature of this study, I used broad categorizations of racial and ethnic groups. The category of Non-Hispanic Whites was constructed from the original category of White, while Latino included respondents from Central and South America, including respondents originally coded as Nicaraguan, Latin American, Mexican, Latino, Hispanic, in addition to respondents who hyphenated these identities with the term American. I used the label of Latino versus Hispanic for two main reasons. One, Latino, which denotes shared geographical (i.e. *Latin American*) ethnic ancestry, is a more inclusive categorization for these varied ethnic identities than Hispanic, which denotes only shared Spanish origins and language use. Unlike Hispanic, Latino accurately categorizes both Hispanic/Latino and non-Hispanic/Latino respondents (i.e. those who identified themselves as Latin American but may have been of a non-Hispanic Latino origin (e.g., Brazilian or Guyanan). Secondly, given Meso/Latin American tribes’ rich cultural heritage, which significantly pre-dated Spanish colonization and their practices of forced Spanish language adaptation for the natives, it would be highly misleading and inaccurate to label these varied respondents’ ethnic ancestry as ‘of Spanish origins’.

Asian included respondents originally coded as Asian, Filipino, Vietnamese, Lao, Cambodian, Pakistani, and anyone who was coded with these hyphenated identities. Due to the small sample sizes of Southeast Asian (Filipino, Lao, Thai, Cambodian, Vietnamese, and their corresponding hyphenated identities) and South Asian (Pakistani-American) populations, I used the broader Asian identity to capture all of these groups.

Black included respondents originally coded as Black, Jamaican, and Haitian/Haitian-American. Lastly, the category of Other included Cubans and those who identified as multi-racial, Other West-Indian nationality, Islander, Human Race, and other. All of these populations had very small sample sizes that limited their categorization as distinct racial/ethnic groups. It is also important to note that while Jamaicans and Haitians are typically considered ethnically Caribbean in the U.S., they are often racially considered as Black because of their phenotypic traits and their population's full or at least partial African ancestry. While a significant proportion of Cubans also have African ancestry, along with intersecting racial and ethnic identities (e.g., Black and Cuban), they are generally considered to be ethnically Hispanic/Latino and phenotypically as non-Black in the U.S. population; hence, I excluded Cubans from the Black category.

School climate. Two different summed scales composed of Likert-scale type statements were used to measure two different aspects of school climate, *student-teacher relations and school safety*.

A summed scale of four statements ($\alpha = .752$) was used to measure students' *perceptions of their teachers* (0 = *Very negative*, 12 = *Very positive*). The statements were as follows: 1. "The teaching is good," 2. "Teachers are interested in students," 3. "Students are graded fairly," and, 4. "Discipline is fair." Original responses to these questions were 1. *Agree a lot*, 2. *Agree a little*,

3. *Disagree a little*, 4. *Disagree a lot*. The response categories for all four questions were reverse coded so that the answers ranged from bad to good perceptions of student-teacher relations (1. *Disagree a lot*, 2. *Disagree a little*, 3. *Agree a little*, and 4. *Agree a lot*).

The *school safety* scale (0 = *Very unsafe*, 12 = *Very safe*) was similarly constructed from four survey items ($\alpha = .648$): 1. "I don't feel safe at this school;" 2. "Disruptions by other students get in the way of learning;" 3. "Fights often occur between different racial or ethnic groups;" and, 4. "There are many gangs in school." Responses to these questions were 1. *Agree a lot*, 2. *Agree a little*, 3. *Disagree a little*, and 4. *Disagree a lot*.

Family cohesion. Family cohesion was measured on a summed scale (0 = *No cohesion*, 12 = *High cohesion*) of three Likert scale questions ($\alpha = .851$): 1. "Family members like to spend time with each other;" 2. "Family members feel very close to each other;" and 3. "Family togetherness is very important." The scale items had the following response categories 1. *Never*, 2. *Once in a while*, 3. *Sometimes*, 4. *Often*, and 5. *Always*.

Control Variables

Gender. CILS-2 measured gender on the basis of the question: "What is your sex? (1. Male, 2. Female)." In the present study, gender was captured by a dichotomous variable "*Female*" (0 = *No*, 1 = *Yes*).

Age. CILS-1 directly asked the question of "How old are you?" but this question was not repeated during CILS-2 so I measured age based on the Wave 1 variable that ranged from 12-18 years old.

Length of residence in USA. Length of students' U.S. residency was assessed with one question: "How long have you lived in the U.S.? (1. *All of my life*, 2. *Ten years or more*, 3. *Five to nine years*, and 4. *Less than five years*)." For the regression analysis, the following 3 dummy

variables (0 = *No*, 1 = *Yes*) were created: 1. *10 years or less*; 2. *10 years or more*; and, 3. *All of my life*.

Socio-economic status. CILS researchers calculated Parents' Socio-economic Index (SEI) scores based on their level of educational attainment, occupational prestige scores, and home ownership. Scores were combined into a standardized scale and only calculated for cases that had scores for at least three of the SEI component variables. SEI scores ranged from -1.66 to 2.09 with lower scores implying lower socio-economic status. The SEI scores were only calculated during Wave 1 of the survey.

Annual dropout rate. Dropout rate measured in percentages was captured on the basis of 1995 school records).

School context. School context was evaluated with three separate variables: the *school's size* (measured by the number of students enrolled in school), *poverty rate* (measured as percentage of students eligible for subsidized lunch), and *inner city school* (captured whether respondents were enrolled in high school in inner city; 0 = *No*, 1 = *Yes*). These variables are based on Wave 1 data because they were not available at Wave 2.

Analytic Strategy

Zero-order correlations confirmed that none of the correlations among the independent variables and control variables considered in the same regression model exceeded .60 (the results are not shown). I also conducted Variance Inflation Factor (VIF) diagnostics in order to test whether any two independent and control variables operated similarly in their effect on dependent variables (the results are not shown). All the VIFs were lower than 3.

The descriptive statistics for all the study variables are presented in Table 1. In addition, I used t-tests for ordinal and interval-ratio variables and Chi-square tests for nominal variables to

examine whether there were statistically significant differences in the three measures of academic outcomes and the three measures of perceived discrimination between non-Hispanic Whites and other racial/ethnic groups (see Table 2).

To examine the implications of sources of discrimination and other factors for academic outcomes, I used the ordinary least squares (OLS) regressions. Ordinary least squares regression models were run separately for each type of academic outcome (academic performance, academic aspirations, and attitude for academic achievement) and presented in Tables 3 – 5, respectively. All of the study's regression models controlled for important individual (*female, age, length of residence, parents' socio-economic status*) and contextual (*school size, poverty rate, inner city school*) characteristics.

There were 5 regression models for each type of academic outcome. Model 1 included the 3 sources of perceived discrimination (*societal, institutional, and peer*). Models 2 – 4 added, one at a time, blocks of measures for race/ethnicity (Model 2), students' perception of school climate (Model 3), and students' perceptions of family cohesion (Model 4) to Model 1 in order to test whether these variables are related to academic outcomes and whether the inclusion of these sets of variables make a difference in the implications of perceived discrimination for academic outcomes. Finally, Model 5 was a full model that included all of the study variables.

I also included interaction terms in my regression models (only statistically significant interactions terms are presented in Tables 3 – 5). Model 2A tested interaction terms between measures of race/ethnicity and three sources of discrimination. There was only one statistically significant interaction term for academic achievement (see Table 5). Model 3A tested interaction terms between school climate variables and three sources of discrimination and none of the interaction terms were statistically significant. Model 4A tested interaction terms between

family cohesion and three sources of discrimination: statistically significant results are presented in Tables 4 and 5.

CHAPTER 5

RESULTS

Descriptive Results

Table 1 shows that respondents had an average GPA of 2.63 on a scale of 0 = *F* to 5 = *A*. In addition, they aspired to pursue their education beyond college (4.53) on a scale of 1 = *Less than high school* to 5 = *Finish graduate degree* and their attitude for academic achievement (i.e., whether good grades were important to them) was 3.61 (i.e., between 3 = *partly true* and 4 = *very true*).

The *Mean* of 3.20 for societal discrimination suggests that on average, respondents agree at least a little that there is societal discrimination in the U.S. Additionally, about a fourth (25.2%) of the respondents reported perceptions of institutional discrimination and about a third (33.3%) of them confirmed perceptions of peer discrimination.

Latinos and Asians represented 32.9% and 34.1% of the sample, respectively. The rest of the sample was 5.2% Black, 12.5% non-Hispanic White, and 15.3% were of Other racial/ethnic classifications (see *Measurement* section for included self-reported racial/ethnic labels in the last group).

The *Mean* for student-teacher relations was 7.85 ($SD = 2.83$) on a scale of 0 = *Very negative* to 12 = *Very positive*). The *Mean* for school safety was 6.87 ($SD = 2.68$) on a scale of 0 = *Very unsafe* to 12 = *Very safe*.

The *Mean* for family cohesion was (7.46) ($SD = 3.14$) on a scale of 0 = *No cohesion* to 12 = *High cohesion*. Slightly more than half of the sample was female (53%), about 14 years old on average at Wave 1, and over one third of the sample was born-and-raised in the U.S. (43.7%). On average, respondents' parents had a socio-economic status score of -.082 ($SD = .756$) on an index

ranging from -1.66 to 2.09. The annual dropout rate by 1995 (*Wave 2*) was on average 19.7% of the student body. Schools on average had a population of about 1,839 students and slightly less than half (47.21%) of their student bodies were eligible for government-subsidized lunches. Lastly, 35.3% of the respondents attended schools in inner city (i.e., not a suburban neighborhood context).

Racial/Ethnic Differences in Academic Outcomes and Perceived Discrimination

Table 2 shows some statistically significant differences by race/ethnicity in academic outcomes and perceived discrimination. Compared to non-Hispanic Whites' grade point average (GPA) of 2.43, Latino students had a slightly lower GPA (2.33) while Asians (3.04) and students of Other (2.60) racial/ethnic categorization had a somewhat higher GPA. Only Latino students on average had slightly lower academic aspirations (4.44) than non-Hispanic White students (4.59). Compared to non-Hispanic Whites, Asian students had significantly higher attitude for academic achievement. Specifically, good grades were more important to Asian students than to non-Hispanic students (3.71 vs. 3.54).

There were also statistically significant differences between the average amounts of perceived societal, institutional, and peer discrimination across racial/ethnic groups. Compared to non-Hispanic Whites (3.12), Latinos (3.21), Blacks (3.50), and those grouped under 'Other' (3.23) perceived somewhat more societal discrimination. Similarly, all racial/ethnic groups reported more perceived institutional and peer discrimination than non-Hispanic Whites. In relation to Non-Hispanic Whites, Black students reported about twice as much perceived institutional (37.2%) and peer (42.4%) discrimination. Similarly, Asian students reported about 2 times more peer discrimination than their Non-Hispanic White peers.

Regression Results

Academic performance. Table 3 presents OLS regression results for academic performance.

In Model 1, both institutional ($B = -.104, p < .01$) and peer discrimination ($B = .157, p < .001$) were significantly associated with academic performance. While institutional discrimination was related to lower academic performance, peer discrimination was linked to higher academic performance.

Model 2 shows that, compared to non-Hispanic Whites, Asians ($B = .507, p < .001$) and students of Other ($B = .146, p < .01$) racial/ethnic backgrounds reported higher academic performance. Adding measures of racial/ethnic self-labeling were associated with a smaller estimate of institutional ($B = -.087, p < .05$) and peer discrimination ($B = .084, p < .01$) in Model 2, compared to Model 1.

Model 3 demonstrates that better student-teacher relations ($B = .030, p < .001$) were predictive of improved academic performance. Additionally, when the measures of school climate were taken into account in Model 2, the estimated effect of institutional discrimination on academic performance became non-significant, compared to Model 1.

Model 4 indicates that family cohesion is not a statistically significant predictor of students' academic performance.

Lastly, Model 5 (full model) shows that perceived peer discrimination ($B = .098, p < .01$) and Asian ($B = .508, p < .001$) or Other ($B = .146, p < .01$) racial/ethnic identities were associated with higher academic performance. Students who have better student-teacher relations ($B = .019, p < .01$) and perceptions of school safety ($B = .013, p < .05$) also have higher academic performance. Model 5 also reveals that several control variables were predictive of academic performance. Specifically, women ($B = .362, p < .001$), compared to men, persons

who resided in the U.S. 10 years or less ($B = .109, p < .01$), compared to those who have lived here all of their life, and students with parents' of higher socio-economic status ($B = .168, p < .001$) reported higher academic performance. At the same time, students who were older ($B = -.080, p < .001$) and attended a school with a larger annual dropout rate ($B = -.027, p < .001$) or larger student population ($B = -.001, p < .001$) reported lower academic performance.

Academic aspirations. Table 4 displays OLS regression results for academic aspirations. Compared to Model 1 results for academic performance, Model 1 for academic aspirations shows that only peer discrimination ($B = .099, p < .030$) was significantly associated with academic aspirations. Similarly, peer discrimination was related to higher school aspirations.

Unlike Model 2 results for academic performance, minority racial/ethnic identities were not significantly related to academic aspirations, that is, there was no significant difference between minority and non-Hispanic white adolescents' school aspirations.

Similar to Model 3 results for academic performance, Model 3 shows that better student-teacher relations ($B = .014, p < .05$) are associated with improved academic aspirations. In addition, more positive perceptions of school safety ($B = .013, p < .05$) are also predictive of higher school aspirations. Furthermore, adding in both of these variables slightly increased the estimated effect of peer discrimination ($B = .110, p < .001$) on higher academic aspirations, compared to Model 1.

Similar to the results reported for Model 4 on academic performance, Model 4 for academic aspirations shows that family cohesion is not predictive of students' school aspirations. Model 4A included the significant interaction term between family cohesion and societal discrimination ($B = .013, p < .05$). Students who perceived more family cohesion and societal discrimination reported higher academic aspirations. This shows that family cohesion may be a

protective factor for student aspirations when students perceive greater levels of societal discrimination.

In Model 5 (full model), those who perceive more peer discrimination ($B = .103, p < .01$) and greater school safety ($B = .013, p < .05$) may develop higher school aspirations, which is in line with the findings for academic performance. Model 5 also shows that various control variables were predictive of academic aspirations. Similar to Model 5 results for academic performance, women ($B = .251, p < .001$), compared to men, and students with parents of higher socio-economic status ($B = .205, p < .001$) reported higher academic aspirations. Moreover, students who were older ($B = -.108, p < .001$) and attended a school with a larger annual dropout rate ($B = -.027, p < .001$) had lower aspirations. In contrast to previously discussed results for academic performance, students who attended larger ($B = .000, p < .000$) schools reported higher aspirations and residential status was non-significantly related to the dependent variable.

Attitude for academic achievement. Table 5 reports OLS regression results for the variable of attitude for academic achievement. In contrast to Model 1 results for academic performance and aspirations, Model 1 for this variable shows that no sources of discrimination were predictive of students' attitude for academic achievement.

Similar to Model 2 results for academic performance, Asian heritage ($B = .151, p < .001$) was significantly related to the dependent variable. Compared to non-Hispanic Whites, Asian students reported a higher attitude for academic achievement. Model 2A included the significant interaction term between Black and societal discrimination ($B = .202, p < .05$) and indicated that Black students who perceived greater societal discrimination also reported that grades were more important to them.

Compared to Model 3 results for academic performance and aspirations, Model 3 for the attitude for academic achievement similarly shows that students with better student-teacher relations ($B = .052, p < .001$) place more value on academic accomplishment (i.e. good grades). However, different from Model 3 results for academic performance and aspirations, the current Model 3 also predicts that as students' perceptions of greater school safety ($B = -.016, p < .001$) is related to lower academic achievement.

Model 4 results for the attitude for academic achievement are distinct from Model 4 results for academic performance and aspirations. Family cohesion ($B = .030, p < .001$) was significantly related to greater importance of academic achievement. Model 4A tested the significant interaction term between family cohesion and societal discrimination ($B = -.011, p < .05$). Students who perceived more family cohesion and societal discrimination reported that good grades were less important to them.

Model 5 (full model) for attitude for academic achievement indicates that Asian ($B = .134, p < .01$) students, compared to their non-Hispanic White peers, place more importance on good grades. Model 5 also shows that better student-teacher relations ($B = .043, p < .001$) and higher family cohesion ($B = .026, p < .001$) are linked to greater importance of academic achievement. However, perceptions of greater school safety ($B = -.014, p < .01$) are associated with lower importance of academic achievement. Similar to Model 5 results for control variables of academic performance and aspirations, females ($B = .147, p < .001$), compared to males, may place higher importance on good grades. Additionally, the results for academic performance and attitude for achievement associate students who have resided in the U.S. 10 years or less ($B = .251, p < .001$), compared to those who have lived here all of their life, with increased importance for good grades.

CHAPTER 6

DISCUSSION

The present study explored the relationship among perceived discrimination and academic outcomes of 2nd generation immigrant adolescents belonging to racial/ethnic minority groups (i.e. Latino, Asian, Black, and Other (e.g., Cuban, West-Indian, and Islander self-labels)). Specifically, the study used OLS regression models to investigate the impact of 3 sources of perceived discrimination (i.e., societal, institutional, and peer) on minority adolescents' academic performance, academic aspirations, and attitude for academic achievement. The implications of various other important factors (i.e., racial/ethnic self-labels, school climate, and family cohesion) were also considered in the analysis.

Overall, the findings suggest five major patterns about the relationship between perceived discrimination and academic outcomes. First, the implications of perceived discrimination vary across the three types of academic outcomes (i.e., academic performance, aspirations, and attitude for academic achievement). Second, self-reported racial and ethnic labels examined in this study (i.e. Latino, Asian, Black, and Other compared to Non-Hispanic Whites) differ in their relationship to academic outcomes and sources of perceived discrimination. Third, school climate varies in its effect on academic outcomes and in its impact on perceived discrimination. The fourth major pattern indicates that family cohesion is only important for shaping students' academic motivation (i.e., attitude for academic achievement). Lastly, the results imply that a Black identity and belonging to a highly cohesive family are two important moderators of perceived societal discrimination.

Impact of Perceived Discrimination on Academic Outcomes

The study's results suggest that perceived discrimination might be an important predictor

of students' standardized performance (i.e., academic performance) and their self-perception (i.e., academic aspirations), but not of their motivation to succeed (i.e., attitude for academic achievement). More specifically, standardized performance was predicted by both perceived institutional and peer discrimination, while aspirations was predicted by peer discrimination alone. In part, these findings may be explained by differences in their nature of measurement. Namely, academic performance is a more objective measure of academic outcomes captured by standardized scores, compared to the more subjective measures of academic self-perception and motivation that reflect students' personal expectations and sentiments.

Academic performance. Unexpectedly, peer discrimination was associated with a higher grade point average. This finding contradicts prior research that demonstrated peer discrimination's might not have an impact (Benner and Graham 2011) or might have adverse implications (Nakamoto and Schwartz 2010) academic performance. However, it is unclear how Nakamoto and Schwartz's (2010) findings apply to high school students since their sample was primarily composed of elementary and middle school students. Relevant to high school students, the current finding is consistent with Benner and Graham's (2011) argument that peer discrimination may be more relevant for adolescents' psychological versus academic maladjustment. However, developmental psychology research has shown that psychological maladjustment (e.g., anxiety, depression, and feelings of loneliness) may over time have adverse spillover effects for students' academic performance (i.e., chronic stress hypothesis) (Nakamoto and Toblin 2005). Nonetheless, it is plausible that students are more academically resilient to peer than institutional discrimination because peer discrimination is a form of interpersonal versus systemic mistreatment. Perceived institutional discrimination may be especially detrimental for students' academic performance if they have poor quality relationships with their

teachers and other institutional gatekeepers (Garcia Coll et al. 1996). This idea is further supported by present results, which show that students who perceive more institutional discrimination have worse GPAs, a finding that is consistent with past research (Benner and Graham 2013; Ying and Han 2006; and Faircloth and Hamm 2005).

The Ecological Systems Theory and the Integrative Model for the Study of Developmental Competencies in Minority Children further clarify these results (Garcia Coll et al. 1996; Bronfenbrenner 1979). Within the school context (i.e., students' daily microsystem), adolescents concurrently develop separate relationships with peers and with institutional authority figures (i.e., teacher and other school personnel). Considering peers' and school authority figures' distinct social roles at school, it is possible that students simultaneously perceive peer and institutional discrimination, and that these sources of discrimination exert different effects on their academic performance. Garcia Coll and colleagues' (1996) model also supports this notion by theorizing that minority students may be embedded in an inhibiting and promoting environment at the same time (Garcia Coll et al. 1996). In contrast to the experience of school-level discrimination, where teachers/school personnel control your access to academic rewards/opportunities, victims of interpersonal harassment may cope by withdrawing from their peers and dedicating more of their time/attention to their studies. This coping mechanism may temporarily help harassed students regain a sense of control/purpose within their school environment while inadvertently improving their GPAs. However, if these same students also perceive that teachers discriminate against them in individual classrooms, they may struggle to translate their learning efforts into tangible results (Garcia Coll et al. 1996).

Academic aspirations. Surprisingly, higher levels of perceived peer discrimination also improved students' school aspirations. This finding contradicts previous research that suggested

peer discrimination lowered student aspirations (Ladd, Ettekal, and Kochenderfer-Ladd 2017). In part, these discrepancies may be due to inconsistent measurements of aspirations and differences in samples. It is also important to consider how other factors not included in the presented study, such as parental communication (e.g., racial/ethnic socialization), supportive peer relationships, and students' pro-diversity attitudes, may affect the relationship between perceived peer discrimination and academic aspirations. An alternative explanation may be that bullied students briefly cope with their harassment by striving for higher academic goals, which they may see as a way to overcome their social rejection.

Impact of Additional Variables

Racial/Ethnic Self-labels

Academic performance. Compared to non-Hispanic whites, Asians and students who reported their race/ethnicity as Other (e.g., Cuban, West-Indian, and Islander) had higher GPAs, while Latinos had lower GPAs. Researchers generally agree that Asian/Asian American students on average have higher standardized performance than non-Hispanic Whites and provide several explanations for this pattern, including differences in socioeconomic background, cultural values, and student effort (Hsin and Xie 2014). Additionally, it should be emphasized that there is considerable variation in academic performance among wealthier (e.g., Japanese, Chinese, and Indians) and poorer (e.g., Vietnamese, Laotian, and Thai) Asian immigrants (Kato and Thompson 2003). Past research has also shown that Latino students generally have lower standardized scores than their non-Hispanic White peers (Kao and Thompson 2003). Among Latinos, Cubans and Central/South American students tend to have higher academic achievement than their Puerto Rican and Mexican/Mexican American counterparts (Kao and Thompson 2003). The results for respondents categorized as Other minority identities (e.g., Cuban, West-

Indian, and Islander identities) counter prior research that implied these minority students have lower standardized scores than non-Hispanic Whites (Mitchell 2005; Kao and Thompson 2003). In line with Garcia Coll and colleagues' (1996) developmental model, these different patterns across racial/ethnic groups can be explained by taking into account minority children's diverse developmental contexts and factors, including their varied social position variables (e.g., race, ethnicity, class), experiences with multilayered segregation, their family histories, and migration experiences.

The results also indicate that racial/ethnic self-labels may slightly account for the impact of institutional and peer discrimination on GPA. This pattern is broadly consistent with prior research that suggested racial/ethnic identity might lessen the detrimental effects of perceived discrimination (Brown and Chu 2012; and, Green, Way, and Pahl 2006). The perspective of Garcia Coll and colleagues' (1996) model suggests that parents may rely on racial/ethnic socialization to help their children cope with their experiences of discrimination and social devaluation. Overall, racial/ethnic socialization refers to parenting practices that pass on information about race/ethnicity and group culture (e.g., traditions/values/beliefs) (Hughes et al. 2006). Research has shown that racial/ethnic socialization can contribute to the development of a positive racial/ethnic identity, including self-labeling of one's racial/ethnic origin (Hughes et al. 2006).

Academic aspirations. Present findings indicate there are no significant differences in school aspirations between non-Hispanic Whites and minority adolescents. This finding supports Kao and Thompson's (2008) assertion that educational aspirations have risen across all racial/ethnic groups for the past two decades and that majority of high school students now aspire to at least a bachelor's degree, although there are differences in how much these

aspirations translate into educational attainment across racial/ethnic groups (Kao and Thompson 2008).

Attitude for academic achievement. An Asian identity predicted a higher attitude for academic achievement (i.e., valuing of good grades) than a non-Hispanic White identity. While this result confirms model minority stereotypes associated with Asian students, recent research on academic motivation implies that all students regardless of their racial/ethnic identity are driven to succeed in school (Center on Education Policy 2012). However, similar to previously discussed research on academic aspirations, there are various explanations (e.g., socioeconomic and cultural) for why Latino and Black students' motivation to succeed persistently leads to lower levels of educational attainment compared to their non-Hispanic White and Asian counterparts (i.e., mostly Japanese, Indian, and Chinese).

School climate. As mentioned above, different aspects of school climate varied in their effects on academic outcomes. Better student-teacher relations predicted improved standardized performance (i.e., GPA), academic self-perception (i.e., school aspirations) and motivation (i.e., valuing of good grades). Similarly, students who reported higher perceptions of school safety had higher academic performance and aspirations. Curiously though, higher perceptions of school safety lowered students' attitude for academic achievement. Considering that previous studies used a composite measure of school climate, it is somewhat unclear how present findings relate to previous studies (Benner and Graham 2013; Benner and Graham 2011; Stone and Han 2005). Prior research associated more positive perceptions of school climate with improved academic performance (Benner and Graham 2011). Previous studies also indicated that negative perceptions of school climate can lower students' academic performance, aspirations, and motivation, but more research is needed to explain the associations between specific aspects of

school climate and academic outcomes (Benner and Graham 2013; Eamon 2005; Stone and Han 2005).

School climate also in part accounted for the impact of institutional discrimination on GPA. The results imply that both supportive student-teacher relations and better school safety may be protective of students' standardized performance. In line with the Integrative Model for the Study of Developmental Competencies in Minority Children, better school climate may create a promoting environment to student learning that helps counteract the negative effects of perceived institutional discrimination.

Family cohesion. Interestingly, family cohesion was only important for shaping students' attitude for academic achievement (i.e., valuing of good grades). Students from more cohesive families placed higher importance on attaining good grades. This notion is supported by Gonzalez-De Hass and colleagues' (2005) review of 13 studies that showed parental involvement promoted students' academic motivation in various ways (e.g., increased school engagement, self-efficacy, and goal orientation). However, the present finding contradicts the well-established idea among education researchers that greater family cohesion (i.e., higher parental involvement in educational processes) is beneficial for students' academic performance (Jeyens 2007; Kao 2004). The present study relied on a less frequently used, and more subjective, measure of parental involvement (i.e., students' perceptions of their closeness to family members), which may partially account for these differences in findings.

Importance of Moderators

Black Self-label. As briefly mentioned before, self-labeling as Black moderated the negative impact of perceived societal discrimination on attitude for academic achievement, which is consistent with previous research demonstrating that racial/ethnic identity may diminish

the detrimental effects of perceived discrimination (Brown and Chu 2012; Green, Way, Pahl 2006). According to the Ecological Systems Theory, supportive social relations in students' overlapping ecological contexts (i.e. neighborhood, family, and peer relations) may have a cumulative positive impact on their academic motivation, which may more generally explain how students can remain academically resilient to perceived societal discrimination. Meanwhile, the Integrative Model for the Study of Developmental Competencies in Minority Children suggests that self-labeling oneself as Black may be an element of adaptive culture that helps students remain resilient to negative social messaging about their racial/ethnic group.

Family cohesion. Family cohesion moderated the impact of perceived societal discrimination for both academic aspirations and attitude for achievement. Nonetheless, it varied in its overall impact across these two outcomes. More specifically, students who perceived more societal discrimination and who belonged to more cohesive families, set higher school aspirations. This finding is supported by Garcia Coll's and colleagues' (1996) developmental model, which asserts that the family context is crucial for teaching minority children about adaptive cultural strategies in response to social discrimination. For instance, more socio-economically advantaged immigrant parents, who voluntarily immigrate to the U.S., often try to instill in their children a high value for education, and encourage them to strive for higher academic goals, so they can secure a better future for themselves.

On the contrary, and surprisingly, students who reported more perceived societal discrimination *and* family cohesion placed less value on obtaining good grades. This contradicts Tang and colleagues' (2016) finding, which showed that less family cohesion (i.e., less involved parents) might lead to more perceived societal discrimination and lower academic motivation. At the same time, according to Garcia Coll and colleagues' (1996) model, greater family cohesion

could be an adaptive response to children's increased perceptions of societal discrimination that results in positive or negative consequences for children's student activities. In this case, the decreased academic motivation (i.e., valuing of grades) is possible in the context of a highly demanding family that places heavy domestic obligations on its children that interfere with their school activities.

Limitations

This study has several limitations. First, this study's cross-sectional analysis of the data cannot offer any information on causal linkages between perceived discrimination and academic outcomes. Second, the 1995 data used for the analysis might seem outdated and less relevant for offering information on how perceived discrimination of minority adolescents nowadays may impact their academic outcomes. However, the results do provide useful insights for understanding the recent history of how perceived discrimination and academic outcomes were interrelated in the context of changing societal attitudes for minority adolescents of immigrant backgrounds. Specifically, the findings of the present study might be beneficial for highlighting a historical perspective on the associations between perceived discrimination and academic outcomes.

It is also important to acknowledge limitations in the measurement of some of the study variables, including academic outcomes, perceived discrimination, and race/ethnicity. While the overall construct of academic outcomes was measured in a multidimensional way (based on standardized performance, academic self-perception, and academic motivation to succeed in school), the individual measurement of each of these 3 components was limited by the dataset. Standardized performance was measured by GPA scores collected during CILS 1 because this data was not available for CILS 2. Academic self-perception was measured by long-term

educational aspirations, even though this is just one aspect of this more complex component of academic outcomes. Similarly, academic motivation to succeed in school was measured by a single attitudinal variable regarding students' valuing of good grades. Future research would benefit by considering additional measures of academic self-perception (e.g., students' perception of their academic performance) and academic motivation (e.g., desire for learning). Moreover, while the dataset provides measures of multiple sources of discrimination (societal, institutional, and peer), these measures only capture more general perceptions of different types of discrimination. Different methods of data collection, such as interviews and diary data collection, would allow for perceptions of discrimination to be documented in a more contextualized and nuanced way. In addition, I was not able to use additional racial/ethnic subgroups (e.g., different Latino or Asian subgroups) due to their small sample sizes. Furthermore, because of data limitations, I could not capture the multidimensional nature of racial and ethnic identity (i.e., importance of racial/ethnic commitment, practices, and attitudes; Phinney 1992) beyond self-identification/labeling.

Future research could further explore the relationship between perceived discrimination and minority adolescents' academic outcomes by addressing the above-discussed limitations. More recent data and longitudinal analyses could provide insights on the causal relations between these variables with respect to minority adolescents nowadays. Meanwhile, more detailed measures of key study variables (i.e., academic outcomes, sources of discrimination, and race/ethnicity), and the integration of some qualitative data (e.g., interviews, open-ended survey questions) could help clarify the relationships between sources of perceived discrimination and its impact on minority youth's school outcomes. In particular, future research could investigate in more detail how different types of ethnic identity labels (1. Heritage, 2. Heritage-American, 3.

Panethnic, 4. Panethnic-American, and 5. American only; Phinney 1992) are related to the interplay between sources of discrimination and academic outcomes for minority adolescents, including 2nd generation immigrant youth who use distinct labels to identify themselves in the context of their ongoing acculturation process.

CHAPTER 7

CONCLUSION

This study's findings contribute to the literature on perceived discrimination and academic outcomes for racial and ethnic minority adolescents of 2nd generation immigrant status. More specifically, the study demonstrated the importance of conceptualizing distinct sources of perceived discrimination and academic outcomes in order to better understand the unique interactions between these variables. Additionally, second-generation immigrant youth are an understudied population among immigrant children, which is an important factor to consider when evaluating the significance of this study. The present findings offer valuable historical information on how their academic development was affected by different sources of perceived discrimination.

Overall, the unexpected findings about peer discrimination's positive impact on academic performance and aspirations, elicit questions about minority youth's academic resiliency to different sources of discrimination. Studying discrimination through a resilience framework may yield new research questions and findings on the varied adaptive cultures minority groups use to cope with different types of discrimination. The results indicate that promoting positive racial/ethnic group relations at school, along with student-teacher relations and school safety, may be some important considerations for developing educational intervention programs. For example, involving students, teachers, and other school personnel in cultural competency trainings may be one way the school could promote the development of more pro-diversity attitudes within its community. Additionally, schools could implement curricula with culturally sensitive material (e.g., ethnic studies classes) and promote school safety by training students and staff on productive conflict resolution strategies, such as effective anger management.

References

- Abdelhady, Dalia, Yael Brinbaum, and Amy Lutz. 2016. "Integration through Education? Aspirations, Experiences, and Opportunities among Two Second Generation." *Conference Papers -- American Sociological Association* 1–32.
- About, Frances E., and Maria Amato. 2001. "Developmental and Socialization Influences on Intergroup Bias." In S. L. Gaertner (Ed.), *Blackwell handbook of social psychology: Intergroup processes* (pp. 65–88). Malden, MA: Blackwell.
- Acosta, Silvia L., Michelle Hospital, Juliette N. Graziano, Staci Morris, and Eric F. Wagner. 2015. "Pathways to Drinking Among Hispanic/Latino Adolescents: Perceived Discrimination, Ethnic Identity, and Peer Affiliations." *Journal of Ethnicity in Substance Abuse* 14(3):270–286.
- Baldwin-White, Adrienne J. M., Elizabeth Kiehne, Adriana Umaña-Taylor, and Flavio Marsiglia. 2017. "In Pursuit of Belonging: Acculturation, Perceived Discrimination, and Ethnic–Racial Identity among Latino Youths." *Social Work Research* 41(1):43–52.
- Becares, Laia, and Naomi Priest. 2015. "Understanding the Influence of Race/Ethnicity, Gender, and Class on Inequalities in Academic and Non-Academic Outcomes among Eighth-Grade Students: Findings from an Intersectionality Approach." *PLoS ONE* 10(10): e0141363. <https://doi.org/10.1371/journal.pone.0141363>.
- Bellmore, Amy D., Melissa R. Witkow, Sandra Graham, and Juvonen, J. 2004. "Beyond the Individual: The Impact of Ethnic Context and Classroom Behavioral Norms on Victims' Adjustment." *Developmental Psychology* 40:1159–1172.
- Bellmore, Amy D., A. Nishina, J. You, T. Ma. 2012. "School Context Protective Factors Against Peer Ethnic Discrimination Across the High School Years." *American Journal of Community*

Psychology 49:98–111.

- Benner, Aprile D., and Su Yeong Kim. 2011. “Experiences of Discrimination Among Chinese American Adolescents and the Consequences for Socioemotional and Academic Development.” *Developmental Psychology* 45(6):1682-1694.
- Benner, Aprile D., and Sandra Graham. 2011. “Latino Adolescents’ Experiences of Discrimination Across the First 2 Years of High School: Correlates and Influences on Educational Outcomes.” *Child Development* 82(2):508–519.
- Benner, Aprile D., and Sandra Graham. 2013. “The Antecedents and Consequences of Racial/Ethnic Discrimination During Adolescence: Does the Source of Discrimination Matter?” *Developmental Psychology* 49(8):1602–1613.
- Borsato, Graciela N. 2008. “Perceived Discrimination, Racial/Ethnic Identity, and Adjustment Among Asian American and Latino Early Adolescents.” PhD dissertation, School of Education and Graduate Studies of Stanford University, from ProQuest Dissertations and Theses Database, 3313536.
- Brown, Christia S., and Rebecca S. Bigler. 2005. “Children’s Perceptions of Discrimination: A Developmental Model.” *Child Development* 76:533–553.
- Brown, Christia S. 2015. “The Educational, Psychological, and Social Impact of Discrimination on the Immigrant Child.” Washington, DC: Migration Policy Institute.
- Brown, Christia S., and Hui Chu. 2012. “Discrimination, Ethnic Identity, and Academic Outcomes of Mexican Immigrant Children: The Importance of School Context.” *Child Development* 83(5):1477–1485.
- Bryan, Linda A., and Mary M. Atwater. 2002. “Teacher Beliefs and Cultural Models: A Challenge for Science Teacher Preparation Programs.” *Science Teacher Education* 86:821–839.

- Buchmann, Claudia, Thomas A. DiPrete, and Ann McDaniel. 2008. "Gender Inequalities in Education." *Annual Review of Sociology*. 34:319-337.
- Center on Education Policy. 2012. "Student Motivation-An Overlooked Piece of School Reform." Retrieved on October 28, 2018 (<https://files.eric.ed.gov/fulltext/ED532666.pdf>)
- Chang, Tzu-Fen, Eun-Jin Han, Esther E. Onaga, Brent M. Donnellan. 2013. "Do Positive School Experiences and Preference for American Culture Moderate the Association between School-Based Ethnic Discrimination and Mental Health for Filipino American Adolescents?" *Developmental Psychology* 04(11):813.
- Chavous, Tiffany M., Deborah Rivas-Drake, Ciara Smalls, Tiffany Griffin, and Courtney Cogburn. 2008. "Gender Matters, Too: The Influences of School Racial Discrimination and Racial Identity on Academic Engagement Outcomes among African American Adolescents." *Developmental Psychology* 44(3):637-654.
- Cheng, Simon, and Brian Starks. 2002. "Racial Differences in the Effects of Significant Others on Student's Educational Expectations." *Sociology of Education* 75(4): 306.
- Clotfelder, C. 2006. *After Brown: The Rise and Retreat of School Desegregation*. Princeton, NJ: Princeton University Press.
- Crosnoe, Robert, and Ruth N. Lopez Turley. 2011. "K-12 Educational Outcomes of Immigrant Youth." *Future of Children* 21(1):129-152.
- Domina, Thurston, AnneMarie Conley, and George Farkas. 2011. "The Case for Dreaming Big." *Sociology of Education* 84(2):118.
- Dotterer, Aryn M., Susan M. McHale, and Ann C. Crouter. 2009. "Sociocultural Factors and School Engagement Among African American Youth: The Roles of Racial Discrimination, Racial Socialization, and Ethnic Identity." *Applied Developmental Science* 13(2):61-73.

- Eamon, Mary K. 2005. "Social-demographic, School, Neighborhood, and Parenting Influences on the Academic Achievement of Latino Young Adolescents." *Journal of Youth and Adolescence* 34:163–174.
- Faircloth, Beverly, and Jill Hamm. 2005. "Sense of Belonging Among High School Students Representing 4 Ethnic Groups." *Journal of Youth & Adolescence* 34(4):293–309.
- Fisher, Celia B., and Scyatta A. Wallace. 2000. "Discrimination Distress During Adolescence." *Journal of Youth & Adolescence* 29(6):679.
- Flores, Glenda. 2017. *Latina Teachers: Creating Careers and Guarding Culture*. New York: New York University Press.
- Gallup Incorporated. 2017. "In U.S., Worry About Illegal Immigration Steady." Retrieved January 9, 2018 (<http://news.gallup.com/poll/206681/worry-illegal-immigration-steady.aspx>).
- Gallup Incorporated. 2017. "Seven in 10 Trust U.S. Government to Protect Against Terrorism." Retrieved January 9, 2018 (<http://news.gallup.com/poll/212558/seven-trust-government-protect-against-terrorism.aspx>).
- Garcia, Ricardo L. 2001. "Countering Classroom Discrimination." *Theory into Practice* 23(2):104.
- Gómez, Cynthia A., Elodia Villaseñor, Emily S. Mandic, Carmen G. Valladares, and Ena Suseth. 2014. "The New Majority: How will Latino Youth Succeed in the Context of Low Educational Expectations and Assumptions of Sexual Irresponsibility?" *Sexuality Research and Social Policy* 11(4):348-362.
- Gonzalez De Hass, Alyssa R, Patricia P. Willems, and Marie F. Doan Holbein. "Examining the Relationship Between Parental Involvement and Student Motivation." *Educational Psychology Review* 17(2).
- Greene, Melissa L., Niobe Way, and Kerstin Pahl. 2006. "Trajectories of Perceived Adult and Peer

- Discrimination Among Black, Latino, and Asian American Adolescents: Patterns and Psychological Correlates.” *Developmental Psychology* 42(2):218–236.
- Hsin, Amy, and Yu Xie. 2014. “Explaining Asian Americans’ Academic Advantage over Whites.” *PNAS* 111(23):8416-8421.
- Hughes, Diane, Juan Del Toro, Jessica F. Harding, Niobe Way, and Jason R. D. Rarick. 2016. “Trajectories of Discrimination Across Adolescence: Associations With Academic, Psychological, and Behavioral Outcomes.” *Child Development* 87(5):1337–1351.
- Hughes, Diane, James Rodriguez, Emilie Smith, Deborah Johnson, and Howard Stevenson. 2006. “Parents’ ethnic-racial socialization practices: a review of research and directions for future study.” *Developmental Psychology* 42(5):747-770.
- Huynh, Virginia W., and Andrew J. Fuligni. 2010. “Discrimination Hurts: The Academic, Psychological, and Physical Well-Being of Adolescents.” *Journal of Research on Adolescence (Wiley-Blackwell)* 20(4):916–941.
- Hwang, Cliff W., and Shingo Goto. 2008. “The Impact of Perceived Racial Discrimination on the Mental Health of Asian American and Latino College Students.” *Cultural Diversity and Ethnic Minority Psychology* 14:326– 335.
- Irvin, Matthew J., Soo-yong Byun, Judith L. Meece, Karla S. Reed, and Thomas W. Farmer. 2016. “School Characteristics and Experiences of African American, Hispanic/Latino, and Native American Youth in Rural Communities: Relation to Educational Aspirations.” *Peabody Journal of Education* 91(2):176–202.
- Jeynes, William H. 2007. “The Relationship Between Parental Involvement and Urban Secondary School Student Academic Achievement.” *Urban Education* 42(1):82-110.
- Juvonen, Jaana, Adrienne Nishina, and Sandra Graham. 2006. “Ethnic Diversity and Perceptions of

- Safety in Urban Middle Schools.” *Psychological Science* 17:393–400.
- Kao, Grace. 2000. “Group Images and Possible Selves among Adolescents: Linking Stereotypes to Expectations by Race and Ethnicity.” *Sociological Forum* 15(3):407-430.
- Kao, Grace, and Jennifer S. Thompson. 2003. “Racial and Ethnic Stratification in Educational Achievement and Attainment.” *Annual Review of Sociology* 29:417–442.
- Kao, Grace. 2004. “Parental Influences on the Educational Outcomes of Immigrant Youth.” *International Migration Review* 38(2):427–449.
- Ladd, Gary W., Idean Ettekal, Becky Kochenderfer-Ladd. 2017. “Peer Victimization Trajectories from Kindergarten through High School: Differential Pathways for Children’s School Engagement and Achievement?” *American Psychological Association* 109(6):826-841.
- Lehman, Brett. 2011. “Latino Students’ Family Support as a Buffer Against Discrimination: A National Test of Educational Outcomes.” *Conference Papers -- American Sociological Association* 1143–1143.
- Lewis, Simon. 2010. *A Call for Change: The Social and Educational Factors Contributing to the Outcomes of Black Males in Urban Schools*. New York, NY: Council of Great City Schools.
- Major, Brenda, Richard Gramzow, Shannon K. McCoy, Shana Levin, Toni Schmader, and Jim Sidanius. 2002. “Perceiving Personal Discrimination: The Role of Group Status and Legitimizing Ideology.” *Journal of Personality and Social Psychology* 82(3):269–282.
- Medvedeva, Maria. 2009. “Linguistic Adaptation among Adolescent Children of Immigrants: The Role of Perceived Discrimination.” Presented at the annual meeting of the American Sociological Association, August 10, San Francisco CA.
- Mitchell, Natasha. 2005. “Academic Achievement Among Caribbean Immigrant Adolescents: The Impact of Generational Status on Academic Self-Concept.” *Professional School Counseling*

8(3):209-218.

Mossakowski, Krysia. 2003. "Coping with Perceived Discrimination: Does Ethnic Identity Protect Mental Health?" *Journal of Health and Social Behavior* 44:318–331.

Nakamoto, J., & Schwartz, D. (2010). Is peer victimization associated with academic achievement? A meta-analytic review. *Social Development*, 19, 221–242.

Nelson, Todd D. 2009. *Handbook of Prejudice, Stereotyping, and Discrimination*. New York: Psychology Press.

Niwa, Erika Y., Niobe Way, and Diane L. Hughes. 2014. "Trajectories of Ethnic-Racial Discrimination Among Ethnically Diverse Early Adolescents: Associations With Psychological and Social Adjustment." *Child Development* 85(6):2339–2354.

Orfield, Gary. 2002. "The resurgence of school segregation." *Educational Leadership* 16-20.

Pager, Devah, and Hana Shepherd. 2008. "The Sociology of Discrimination: Racial Discrimination in Employment, Housing, Credit, and Consumer Markets." *Annual Review of Sociology* 34:181–209.

Phinney, Jean S. 1992. "The Multi-group Ethnic Identity Measure: A New Scale for Use with Diverse Groups." *Journal of Adolescent Research* 7:156–176.

Qian, Zenchao, and Sampson L. Blair. 1999. "Racial/Ethnic Differences in Educational Aspirations of High School Seniors." *Sociological Perspectives* 42(4):605–625.

Quiroz, Pamela. 2001. The 'Silencing' of Latino Student Voice: Puerto Rican and Mexican Narratives in Eighth Grade and High School. *Anthropology and Education Quarterly* 32:326-349.

Richards, Heraldo V., Ayana F. Brown, and Timotyh Forde. 2007. "Addressing Diversity in Schools: Culturally Responsive Pedagogy." *Teaching Exceptional Children* 39:64–68.

- Ríos-Salas, Vanessa, and Andrea Larson. 2015. "Perceived Discrimination, Socioeconomic Status, and Mental Health Among Latino Adolescents in US Immigrant Families." *Children and Youth Services Review* 56:116–125.
- Rivas-Drake, Deborah. 2011. "Public Ethnic Regard and Academic Adjustment Among Latino Adolescents." *Journal of Research on Adolescence* 21(3):537–544.
- Roche, Kathleen M., Esther J. Calzada, Sharon R. Ghazarian, Todd D. Little, Sharon F. Lambert, and John Schulenberg. 2017. "Longitudinal Pathways to Educational Attainment for Youth in Mexican and Central American Immigrant Families." *Journal of Latina/o Psychology* 5(1):12–26.
- Rodriguez, Rita. 2007. "Latino Youths' High School Adjustment: The Risk and Protective Factors of Perceived Discrimination and Ethnic Identity." PhD dissertation, School of Education and Graduate Studies of Stanford University, from ProQuest Dissertations and Theses Database, 3292411.
- Romero, Andrea J., Henry Gonzalez, and Bryan A. Smith. 2015. "Qualitative Exploration of Adolescent Discrimination: Experiences and Responses of Mexican-American Parents and Teens." *Journal of Child and Family Studies* 24:1531–1543.
- Rosenbloom, Susan R., Niobe Way. 2004. "Experiences of Discrimination among African American, Asian American, and Latino Adolescents in an Urban High School." *Journal of Youth and Society*: 35:420 – 451.
- Rumberger, Russell W., B. D. Arellano. 2009. "Understanding and Addressing the California Latino Achievement Gap." In Gutiérrez, R. A., Zavella, P. (Eds.), *Mexican Americans in California: Transformations and challenges* (pp. 61–76). Champaign: University of Illinois.
- Seaton, Eleanor K., and Tiffany Yip. 2009. "School and Neighborhood Contexts, Perceptions of

- Racial Discrimination, and Psychological Well-being Among African American Adolescents.” *Journal of Youth and Adolescence* 38(2):153–163.
- Sellers, Robert, Nikeea Linder, Pamela P. Martin, and L'Heureux Lewis. 2006. “Racial Identity Matters: The Relation Between Racial Discrimination and Psychological Functioning of African American Adolescents.” *Journal of Research on Adolescence* 16:187–216.
- Spears Brown, Christia, and Rebecca S. Bigler, R. S. 2005. “Children’s Perception of Discrimination: A developmental model.” *Child Development* 76:533–553.
- Spees, Lisa, Krista M. Perreira, and Andrew Fuligni. 2017. “Family Matters Promoting the Academic Adaptation of Latino Youth in New and Established Destination.” *Journal of Family Issues* 38(4):457–479.
- St-Hilaire, Aonghas. 2002. “The Social Adaptation of Children of Mexican Immigrants: Educational Aspirations Beyond Junior High School.” *Social Science Quarterly (Wiley-Blackwell)* 83(4):1026–1043.
- Stone, Susan, and Meekyung Han. 2005. “Perceived school environments, perceived discrimination, and school performance among children of Mexican immigrants.” *Children and Youth Services Review* 27(1):51–66.
- Tang, Sandra, Vonnie McLoyd, and Samantha Hallman. 2016. “Racial Socialization, Racial Identity, and Academic Attitudes Among African American Adolescents: Examining the Moderating Influence of Parent-Adolescent Communication.” *Journal of Youth & Adolescence* 45(6):1141–1155.
- Tummala-Narra, Pratyus, and Milena Claudius. 2013. “Perceived Discrimination and Depressive Symptoms Among Immigrant-origin Adolescents.” *Cultural Diversity and Ethnic Minority Psychology* 19(3), 257–269.

- Yang, Kyung-Eung, and Seung-Hwan Ham. 2017. "Truancy as systemic discrimination: Anti-discrimination legislation and its effect on school attendance among immigrant children." *Social Science Journal* 54(2):216–226.
- Yeung, Wei-Jun J., and Kathryn M. Pfeiffer. 2009. "The Black-White Test Score Gap and Early Home Environment." *Social Science Research* 38(2):412-37.
- Ying, Yu-Wen, and Han Meekyung. 2006. "The Effect of Intergenerational Conflict and School-Based Racial Discrimination on Depression and Academic Achievement in Filipino American Adolescents." *Journal of Immigrant and Refugee Studies* 4(4):19–35.
- Velez W. 1989. High school attrition among Hispanic and non-Hispanic white youths. *Sociol. Educ.* 62:119–33
- Wakefield, David W., and Cynthia Hudley. 2007. "Ethnic and Racial Identity and Adolescent Well-Being." *Theory Into Practice* 46(2):147–154.
- Waters, Mary C., and Philip Kasinitz. 2010. "Discrimination, Race Relations, and the Second Generation." *Social Research* 77(1):101–132.

Table 1
 Descriptive Statistics for Study Variables
 (N=3315)

| Variables | Mean | SD | % | Range |
|---|--------|-------|------|---|
| <i>Dependent variables/Academic outcomes</i> | | | | |
| Academic performance (GPA) | 2.63 | .88 | | 0 = F; 5 = A |
| Academic aspirations | 4.53 | .79 | | 1 = Less than high school; 5 = Finish graduate degree |
| Less than high school | | | | |
| Finish high school | | | | |
| Finish some college | | | | |
| Finish college | | | | |
| Finish a graduate degree | | | | |
| Attitude for academic achievement | 3.61 | .67 | | 1 = Not true at all; 4= Very true |
| <i>Independent variables</i> | | | | |
| Perceived discrimination | | | | |
| Societal | 3.20 | .71 | | 1 = Disagree a lot; 4 = Agree a lot |
| Institutional | | | 25.2 | 0 = No, 1 = Yes |
| Peer | | | 33.3 | 0 = No, 1 = Yes |
| Race/Ethnicity | | | | |
| Non-Hispanic White (<i>reference group</i>) | | | 12.5 | 0 = No, 1 = Yes |
| Latino | | | 32.9 | 0 = No, 1 = Yes |
| Asian | | | 34.1 | 0 = No, 1 = Yes |
| Black | | | 5.2 | 0 = No, 1 = Yes |
| Other | | | 15.3 | 0 = No, 1 = Yes |
| School climate | | | | |
| Student-teacher relations | 7.85 | 2.83 | | 0 = Very negative; 12 = Very positive |
| School safety | 6.87 | 2.68 | | 0 = Very unsafe; 12 = Very safe |
| Family cohesion | 7.46 | 3.14 | | 0 = No cohesion; 12 = High cohesion |
| <i>Controls</i> | | | | |
| Female | | | 53.0 | 0 = No, 1 = Yes |
| Age | 14.19 | .85 | | 12 - 18 |
| Length of residence | | | | |
| 10 years or less | | | 28.1 | 0 = No, 1 = Yes |
| 10 years or more | | | 29.2 | 0 = No, 1 = Yes |
| All of my life (<i>reference group</i>) | | | 43.7 | 0 = No, 1 = Yes |
| Parents' socio-economic status | -.08 | .76 | | -1.66 - 2.09 |
| Annual dropout rate | 5.44 | 3.73 | 19.7 | .20 - 27.60 |
| School context | | | | |
| School size | 1838.7 | 766.5 | | 707 - 3568 |
| Poverty rate | 47.211 | 23.2 | | |
| Inner city school | | | 35.3 | 0 = No, 1 = Yes |

Table 2
Racial/Ethnic Differences in Academic Outcomes and Perceived Discrimination
 (N=3315)

| | Non-Hispanic Whites | | Latino | | Asian | | Black | | Other | |
|--|---------------------|------|----------|------|----------|------|---------|------|----------|------|
| | Mean/% | SD | Mean/% | SD | Mean/% | SD | Mean/% | SD | Mean/% | SD |
| Academic outcomes | | | | | | | | | | |
| Academic performance ^a (GPA) | 2.43 | .920 | 2.33* | .847 | 3.04*** | .739 | 2.46 | .826 | 2.60** | .856 |
| Academic aspirations ^a | 4.59 | .750 | 4.44** | .849 | 4.58 | .749 | 4.56 | .826 | 4.52 | .799 |
| Attitude for academic achievement ^a | 3.54 | .680 | 3.58 | .695 | 3.71*** | .583 | 3.56 | .801 | 3.51 | .715 |
| Perceived discrimination | | | | | | | | | | |
| Societal ^a | 3.12 | .749 | 3.21* | .705 | 3.19 | .686 | 3.50*** | .660 | 3.23* | .735 |
| Institutional ^b | 17.4% | | 26.2%*** | | 37.2%*** | | 24.6%** | | 26.1%** | |
| Peer ^b | 20.6% | | 42.0%*** | | 42.4%*** | | 25.8%* | | 37.0%*** | |

* $p < .05$ ** $p < .01$ *** $p < .001$

^aT-test was conducted for ordinal/interval ratio variables ^bChi-square test was conducted for nominal variables

Table 3
 Summary of OLS Regression Analyses for Variables Predicting Academic Performance
 (N=3315)

| | Model 1 | | Model 2 | | Model 3 | | Model 4 | | Model 5 | |
|----------------------------------|----------|-------------|----------|-------------|----------|-------------|----------|-------------|----------|-------------|
| | <i>B</i> | <i>SE B</i> |
| Perceived discrimination | | | | | | | | | | |
| Societal | -.034 | .020 | -.021 | .020 | -.034 | .020 | -.034 | .020 | -.014 | .020 |
| Institutional | -.104** | .035 | -.087* | .034 | -.061 | .036 | -.103** | .035 | -.052 | .035 |
| Peer | .157*** | .033 | .084** | .032 | .159*** | .033 | .158*** | .033 | .098** | .032 |
| Race/Ethnicity ^f | | | | | | | | | | |
| Latino | | | -.087 | .046 | | | | | -.097* | .046 |
| Asian | | | .507*** | .048 | | | | | .508*** | .048 |
| Black | | | -.004 | .073 | | | | | -.015 | .073 |
| Other | | | .146** | .053 | | | | | .146** | .052 |
| School climate | | | | | | | | | | |
| Student-teacher relations | | | | | .030*** | .006 | | | .019** | .006 |
| School safety | | | | | -.001 | .006 | | | .013* | .005 |
| Family cohesion | | | | | | | .003 | .005 | .006 | .004 |
| <u>Controls</u> | | | | | | | | | | |
| Female | .363*** | .028 | .368*** | .027 | .355*** | .028 | .363*** | .029 | .362*** | .027 |
| Age | -.070*** | .018 | -.079*** | .018 | -.072*** | .018 | -.070*** | .018 | -.080*** | .017 |
| Length of residence ^f | | | | | | | | | | |
| 10 years or less | .197*** | .036 | .120** | .035 | .180*** | .036 | .196*** | .036 | .109** | .035 |
| 10 years or more | .116** | .035 | .037 | .034 | .111** | .035 | .116** | .035 | .036 | .034 |
| Parents' socio-economic status | .184*** | .022 | .170*** | .021 | .186*** | .022 | .184 | .022 | .168*** | .021 |
| Annual dropout rate | -.044*** | .004 | -.027*** | .004 | -.045*** | .004 | -.044*** | .004 | -.027*** | .004 |
| School context | | | | | | | | | | |
| School size | .000*** | .000 | -.000*** | .000 | .000*** | .000 | .000*** | .000 | -.001*** | .000 |
| Poverty rate | -.002 | .001 | .000 | .001 | -.002 | .001 | -.002 | .001 | .000 | .001 |
| Inner city school | .047 | .042 | .044 | .040 | .041 | .042 | .047 | .042 | .050 | .041 |
| R ² | .144 | | .216 | | .150 | | .144 | | .222 | |
| <i>F</i> | 46.296 | | 56.876 | | 38.960 | | 42.758 | | 49.488 | |

* $p < .05$. ** $p < .01$. *** $p < .001$.

^fReference group for the following variables: Race (*Non-Hispanic White*); and, Length of residence (*All of my life*)

Table 4
 Summary of OLS Regression Analyses for Variables Predicting Academic Aspirations
 (N=3315)

| | Model 1 | | Model 2 | | Model 3 | | Model 4 | | Model 4A | | Model 5 | |
|---|----------|-------------|----------|-------------|----------|-------------|----------|-------------|----------|-------------|----------|-------------|
| | <i>B</i> | <i>SE B</i> |
| Perceived discrimination | | | | | | | | | | | | |
| Societal | .008 | .019 | .009 | .020 | .013 | .019 | .009 | .019 | -.088 | .049 | .016 | .019 |
| Institutional | -.005 | .033 | -.002 | .034 | .021 | .034 | -.003 | .033 | -.002 | .033 | .022 | .034 |
| Peer | .099** | .030 | .090* | .032 | .110*** | .030 | .101** | .030 | .099** | .030 | .103** | .031 |
| Race/Ethnicity ^f | | | | | | | | | | | | |
| Latino | | | -.048 | .044 | | | | | | | -.058 | .044 |
| Asian | | | .036 | .046 | | | | | | | .042 | .046 |
| Black | | | .025 | .070 | | | | | | | .016 | .070 |
| Other | | | -.030 | .051 | | | | | | | -.029 | .051 |
| School climate | | | | | | | | | | | | |
| Student-teacher relations | | | | | .014* | .006 | | | | | .011 | .006 |
| School safety | | | | | .013* | .005 | | | | | .015** | .005 |
| Family cohesion | | | | | | | .008 | .004 | -.033 | .019 | .006 | .004 |
| <u>Controls</u> | | | | | | | | | | | | |
| Female | .257*** | .026 | .256*** | .027 | .250*** | .026 | .258*** | .026 | .259*** | .026 | .251*** | .026 |
| Age | -.105*** | .017 | -.107*** | .018 | -.106*** | .017 | -.105*** | .017 | -.105*** | .017 | -.108*** | .017 |
| Length of residence ^f | | | | | | | | | | | | |
| 10 years or less | .044 | .033 | .035 | .035 | .039 | .033 | .041 | .033 | .039 | .033 | .027 | .034 |
| 10 years or more | .059 | .032 | .048 | .034 | .059 | .032 | .060 | .032 | .057 | .032 | .049 | .033 |
| Parents' socio-economic status | .212*** | .020 | .208*** | .021 | .211*** | .020 | .211*** | .020 | .210*** | .020 | .205*** | .020 |
| Annual dropout rate | -.013*** | .004 | -.011** | .004 | -.014*** | .004 | -.013** | .004 | -.013** | .004 | -.011** | .004 |
| School context | | | | | | | | | | | | |
| School size | .000*** | .000 | .000*** | .000 | .001*** | .000 | .001*** | .000 | .001*** | .000 | .000*** | .000 |
| Poverty rate | .001 | .001 | .001 | .001 | .000 | .001 | .001 | .001 | .000 | .001 | .001 | .001 |
| Inner city school | -.073 | -.073 | .039 | .040 | -.065 | .039 | -.073 | .039 | -.071 | .039 | -.064 | .039 |
| <u>Interaction term</u> | | | | | | | | | | | | |
| Family cohesion x Societal discrimination | | | | | | | | | .013* | .006 | | |
| R ² | .107 | | .109 | | .112 | | .108 | | .110 | | .114 | |
| F | 33.124 | | 25.254 | | 29.583 | | 30.843 | | 29.000 | | 22.355 | |

* $p < .05$. ** $p < .01$. *** $p < .001$.

^fReference group for the following variables: Race (*Non-Hispanic White*); and, Length of residence (*All of my life*)

Table 5
 Summary of OLS Regression Analyses for Variables Predicting Attitude for Academic Achievement
 N=3315)

| | Model 1 | | Model 2 | | Model 2A | | Model 3 | | Model 4 | | Model 4A | | Model5 | |
|---|----------|-------------|----------|-------------|----------|-------------|----------|-------------|----------|-------------|----------|-------------|----------|-------------|
| | <i>B</i> | <i>SE B</i> |
| Perceived discrimination | | | | | | | | | | | | | | |
| Societal | .006 | .017 | .009 | .017 | .000 | .017 | .002 | .016 | .011 | .017 | .098* | .043 | .009 | .016 |
| Institutional | -.036 | .029 | -.033 | .029 | -.033 | .029 | .033 | .029 | -.028 | .029 | -.029 | .028 | .032 | .029 |
| Peer | .016 | .027 | .002 | .027 | .004 | .027 | .010 | .026 | .026 | .026 | .028 | .026 | .006 | .026 |
| Race/Ethnicity ^r | | | | | | | | | | | | | | |
| Latino | | | .029 | .039 | .029 | .039 | | | | | | | .016 | .038 |
| Asian | | | .151*** | .040 | .151*** | .040 | | | | | | | .134** | .040 |
| Black | | | -.011 | .062 | -.693* | .284 | | | | | | | -.001 | .060 |
| Other | | | -.028 | .044 | -.028 | .044 | | | | | | | -.019 | .044 |
| School climate | | | | | | | | | | | | | | |
| Student-teacher relations | | | | | | | .052*** | .005 | | | | | .043*** | .005 |
| School safety | | | | | | | -.016*** | .004 | | | | | -.014** | .005 |
| Family cohesion | | | | | | | | | .030*** | .004 | .066*** | .017 | .026*** | .004 |
| Controls | | | | | | | | | | | | | | |
| Female | .150*** | .023 | .151*** | .023 | .150*** | .023 | .140*** | .023 | .156*** | .023 | .155*** | .023 | .147*** | .023 |
| Age | -.017 | .015 | -.018 | .015 | -.017 | .015 | -.019 | .015 | -.016 | .015 | -.016 | .015 | -.019 | .015 |
| Length of residence ^r | | | | | | | | | | | | | | |
| 10 years or less | .123*** | .029 | .097** | .029 | -.096** | .029 | .090** | .029 | .109*** | .029 | .110*** | .029 | .059* | .029 |
| 10 years or more | .030 | .028 | .007 | .029 | .005 | .029 | .019 | .028 | .033 | .028 | .035 | .028 | .002 | .028 |
| Parents' socio-economic status | .012*** | .018 | .012 | .018 | .010 | .018 | .015 | .017 | .008 | .017 | .008 | .017 | .010 | .017 |
| Annual dropout rate | -.007* | .003 | -.002 | .003 | -.002 | .003 | -.007* | .003 | -.006 | .003 | -.006* | .003 | -.002 | .003 |
| School context | | | | | | | | | | | | | | |
| School size | -.000* | .000 | -.000 | .000 | -.000 | .000 | -.000 | .000 | -.000* | .000 | -.000* | .000 | -.001 | .000 |
| Poverty rate | .001 | .001 | .001 | .001 | .001 | .001 | .001 | .001 | .000 | .001 | .000 | .001 | .001 | .001 |
| Inner city school | .001 | .034 | -.003 | .034 | -.007 | .034 | -.021 | .034 | .000 | .034 | -.002 | .034 | -.021 | .034 |
| Interaction terms | | | | | | | | | | | | | | |
| Black x Societal discrimination | | | | | .202* | .080 | | | | | | | | |
| Family cohesion x Societal discrimination | | | | | | | | | | | -.011* | .005 | | |
| R ² | .024 | | .033 | | .035 | | .053 | | .039 | | .044 | | .074 | |
| F | 6.661 | | 7.086 | | 7.064 | | 13.298 | | 11.244 | | 10.807 | | 13.810 | |

* $p < .05$. ** $p < .01$. *** $p < .001$.

^rReference group for the following variables: Race (*Non-Hispanic White*); and, Length of residence (*All of my life*)