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Ethnic Identity and Coping Efficacy as Moderators of the Relationships Between Perceived Racial Discrimination and Academic Outcomes Among Urban, Low-Income Latina/o Youth

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Ethnic Identity and Coping Efficacy as Moderators of the Relationships Between
Perceived Racial Discrimination and Academic Outcomes Among Urban, Low-
Income Latina/o Youth

A Thesis

Presented in

Partial Fulfillment of the

Requirements for the Degree of

Master of Arts

By

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Department of Psychology

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Biography

Alison L. Mroczkowski was born in Naperville, Illinois and attended Naperville Central High School. Alison received her Bachelor of Arts degree from Dominican University in River Forest, IL in 2011.

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Abstract

The present study used resilience theory to explore relationships among perceived racial discrimination, ethnic identity, coping efficacy, gender, and various academic outcomes among urban, low-income, Latina/o youth. Although Latina/os are the largest ethnic minority group in the United States, they attain less education than other racial/ethnic groups (Chapman, Laird, Ifill, & KewelRamani, 2011). Racial discrimination is one factor that may account for the lower levels of education attained by this group, and research has indicated that racial discrimination is associated with poor educational outcomes among Latina/o adolescents (Alfaro, Umaña-Taylor, Gonzales-Backen, Bámaca, & Zeiders, 2009; DeGarmo & Martinez, 2006). Despite exposure to risk factors such as racial discrimination, resilience theory suggests that some adolescents with assets, such as ethnic identity or coping efficacy, can still thrive, or achieve success (Fergus & Zimmerman, 2005). Ethnic identity and coping efficacy are two protective factors that were hypothesized to buffer Latina/o students' academic outcomes from the negative effects of racial discrimination. Some research suggests that these relationships are significant among male participants, but not among female participants (Umaña-Taylor, Wong, Gonzales, & Dumka, 2012).

The participants in this study were 446 urban, low-income Latina/o high school students from a large, Midwestern city who completed surveys in both 9th-grade and 10th-grade. Structural equation modeling was used to test the relationships among racial discrimination, ethnic identity, coping efficacy, and

academic outcomes. Results supported a protective model of resilience. Specifically, ethnic identity and coping efficacy served as protective factors by buffering the negative effects of perceived racial discrimination on some academic outcomes, including GPA, attendance, and extrinsic motivation. This study filled gaps in the literature by examining the relationships among perceived racial discrimination, ethnic identity, coping efficacy and academic outcomes among urban, low-income Latina/o adolescents over time.

Introduction

The Educational Status of Latina/os in the United States

Recent research has shown that one's lifetime earning potential in the United States is directly related to educational attainment. This relationship has inspired increasingly more people to pursue higher education over the past 70 years (Julian & Kominski, 2011). In 1940, 24.5% of people over the age of 25 had a high school diploma, and in 2008, 85% of this same group had at least a high school diploma. In addition to increased earning potential, higher levels of education are associated with reduced likelihood of unemployment and institutionalization, and better health outcomes (Chapman, Laird, Ifill, & KewelRamani, 2011; Julian & Kominski, 2011). Although more people are pursuing higher education than before, individuals from various racial/ethnic groups are attaining higher education at different rates. Unfortunately, Latina/os disproportionately earn less education and attain fewer academic degrees than other groups.

Latina/os comprise the largest ethnic minority group living in the United States. In 2010 it was estimated that Latina/os account for 16.3% of the population (Ennis, Rios-Vargas, & Albert, 2011). Between the years 2000 and 2010 the Latina/o population increased by 15.2 million, accounting for over half of the 27.3 million increase in the total population of the United States (Ennis et al., 2011). Because the Latina/o population is rapidly growing, much research is being done to better understand Latina/os and their needs in the United States, specifically their educational needs. What researchers have found to be perplexing

is the discrepancy in the educational attainment rates of Latina/o and non-Latina/o students. Although Latina/os comprise the largest ethnic minority group in the United States, they receive less education and attain fewer academic degrees than other ethnic groups (Chapman et al., 2011).

The National Center for Education Statistics (NCES) released a report that presented trends in educational attainment in the United States over the past 40 years (Chapman et al., 2011). The data in this report are nationally representative and indicate the high school completion and drop out rates of the civilian, non-institutionalized population in the United States. Three indicators of educational attainment are presented: event dropout rates, status dropout rates, and status completion rates.

Event dropout rates refer to the rate at which U.S. high school students enter and leave high school without receiving a high school diploma. Specifically, the event dropout rate in this report indicates the percentage of youth ages 15 through 24 who dropped out of grades 10–12 between October 2008 and October 2009. The event dropout rates suggest that Latina/os were dropping out of high school at higher rates than African Americans or Whites. The event dropout rate of the Latina/o population was 5.8%, meaning that 5.8% of Latina/o students who enrolled in high school dropped out of high school before attaining a high school diploma. The event dropout rates of African American students and White students were 4.8% and 2.4%, respectively (Chapman et al., 2011).

Status dropout rate refers to the percentage of 16- through 24-year-olds who are not enrolled in high school (public or private), and who lack a high

school credential (i.e. a high school diploma or GED). The status dropout rate is necessarily higher than the event dropout rate because it includes individuals who may have not attended high school in the United States. The status dropout rates reported in this study indicate that Latina/os have the highest percentage of adolescents and young adults who are not enrolled in high school and do not have a high school credential. The status dropout rate of Latina/os is 17.6%, while the status dropout rates of African Americans (9.3%), Whites (5.2%), and Asians (3.4%) are much lower (Chapman et al., 2011).

Finally, the status completion rate refers to the percentage of 18- through 24-year-olds who are not enrolled in high school and who have earned their high school diploma or GED. This rate includes individuals who completed their education outside of the United States. The NCES report (Chapman et al., 2011) indicates that in 2009, Asians/Pacific Islanders and Whites both had status completion rates above 90%. Asians/Pacific Islanders had the highest status completion rate at 95.9%, and Whites had a rate of 93.8%. The status completion rate of African Americans was 87.1%, and for Latina/os, the rate was 76.8%. This means that only 76.8% of Latina/o people living in the United States have at least a high school degree.

The fact that Latina/os have the highest high school dropout rate and the lowest high school completion rate is concerning for many reasons. Low educational attainment is associated with higher risk of institutionalization, poorer physical health and mental wellbeing, and a higher risk of dependence on social support services (Chapman et al., 2011). The average high school dropout costs

the economy \$240,000 over his/her lifetime in terms of lower tax contributions, use of Medicare and Medicaid, higher rates of criminal activity, and higher reliance on social welfare (cf. Chapman et al., 2011). Low educational attainment is also associated with higher risk of unemployment and reduced lifetime earning potential (Julian & Kominski, 2011). Because Latina/os have lower rates of educational attainment compared to other groups, they have a higher risk of experiencing these negative outcomes. Although certain societal conditions place Latina/os at risk for experiencing negative outcomes, resilience theory suggests that certain protective factors can attenuate the effects of risk exposure and facilitate healthy development (Fergus & Zimmerman, 2005).

Resilience Theory

Despite being faced with risk, some adolescents manage to overcome barriers and experience healthy developmental trajectories, while others do not and experience negative outcomes. Resilience theory provides a framework for understanding the process of overcoming the negative effects of risk exposure, and it emphasizes promotive factors that either lead to a positive outcome or attenuate a negative outcome (Fergus & Zimmerman, 2005). Key components of resilience theory include the presence of both a risk factor and a promotive factor, and it is marked by a strong focus on the strengths of individuals or populations exposed to risk, rather than deficits. Resilience theory is quite relevant for the academic achievement of Latina/o youth, and it will be used to guide the present study.

Promotive factors that help youth overcome the negative effects of risk exposure can take the form of either assets or resources (Fergus & Zimmerman, 2005). Assets are intrinsic characteristics, such as ethnic identity or coping skills, which help individuals to overcome adversity. Resources are promotive factors that reside outside the individual and can include parental support or social capital. Both assets and resources help adolescents overcome risk exposure and experience healthy development despite facing hardship. Because promotive factors can be either intrinsic or extrinsic, resilience is conceptualized as an ecological process that functions differently depending on the individual and the environment.

Fergus and Zimmerman (2005) propose a protective model of resilience in which assets or resources moderate or reduce the effect of risk exposure on a negative outcome. The authors provide the example of poverty and violence, and they explain that a protective model exists if the relationship between poverty and violence is attenuated or eliminated for youth with high levels of a protective factor, such as parental support. Within the protective model, there exist two sub-models: a protective-stabilizing model and a protective-reactive model. The protective-stabilizing model exists when the protective factor eliminates the effects of risk on a given outcome. In the example of the relationship between poverty and violence, a protective-stabilizing model would exist if there were no relationship between poverty and violence among youth with parental support. A protective-reactive model is similar. However, rather than eliminating the relationship between risk and outcome, the protective factor weakens the

relationship. In the poverty and violence example, a protective-reactive model would exist if the relationship between poverty and violence were weaker among youth with parental support than among youth without parental support.

In their review of the literature on resilience theory, Fergus and Zimmerman (2005) note that a major limitation of this body of literature is that few studies explore resilience among Latina/o populations. The majority of the literature focuses on White or African American participants. The current study used a resilience framework to further explore how ethnic identity and coping efficacy can serve as protective factors in the relationship between racial discrimination and academic outcomes, and it addressed gaps in the literature by studying these relationships among Latina/o adolescents.

Research has supported the idea that experiences with discrimination can have negative consequences for ethnic minority adolescents, but cultural resources can attenuate the negative effects of discrimination, partly because they can enable productive coping (Spencer, Fegley, & Harpalani, 2003). Several researchers who study racial discrimination and ethnic identity have used approaches rooted in resilience theory to guide their research with populations at risk for negative psychosocial outcomes, but studies concerned with academic outcomes are much more scarce (Umaña-Taylor, Wong, Gonzales, & Dumka, 2012).

Racial Discrimination

Researchers who study education have identified the experience of racial discrimination as one possible factor that can explain the lower educational

attainment rates of Latina/os in the United States. Traditionally, many people in the United States have thought of discrimination as an issue of Black vs. White. The adversity experienced by African Americans as they fought for equality during the Civil Rights movement often comes to mind when thinking about discrimination (Rosenbloom & Way, 2004). Rosenbloom and Way (2004) explain that due to the changing demographics of the United States, discrimination is no longer a concept unique to African Americans. In the context of urban schools, many student bodies are becoming increasingly racially and ethnically diverse. Rosenbloom and Way (2004) argue that a new framework is necessary for understanding discrimination and its implications.

As the demographic makeup of the United States has changed, so have the various definitions of discrimination. These definitions distinguish between symbolic vs. traditional racism and institutional vs. individual racism. Rosenbloom and Way (2004) describe traditional racism as a shared common attitude toward an ethnic group while symbolic racism is less overt. Individual racism occurs when a person discriminates against another person because of his/her race or ethnicity, and institutional racism occurs when certain ethnic groups are systematically discriminated against at a societal or institutional level. Oftentimes, people are unaware that institutional discrimination is occurring because it is more subtle than traditional racism. The discrimination that occurs in urban schools today can take any or all of these four forms.

Experiences of racial discrimination.

Rosenbloom and Way (2004) conducted in-depth interviews with 60 adolescents at an urban, low-income high school in New York to gain a better understanding of how adolescents from various ethnic backgrounds experience and think about discrimination. In this study, 20 Asian American, 20 Latina/o, and 20 African American 9th grade students were asked to describe their relationships with friends and family, their school and neighborhood experiences, and how perceptions of racial and ethnic identity influenced their lives.

Results indicated that Asian American students reported more experiences of peer discrimination while Latina/o and African American students reported higher levels of adult discrimination by teachers, police, and shopkeepers. Latina/o and African American participants described instances when they were stopped by police while spending time with friends in their neighborhood, or when shopkeepers followed them when they entered stores. Additionally, many Latina/o and African American students expressed discontent with their teachers. These participants reported that their teachers seemed to prefer the Asian American students and had lower academic expectations for Latina/o and African American students. Some Latina/o and African American students also felt like they were repeatedly passed onto the next grade without being adequately prepared for the next level of increasingly difficult coursework. These experiences of discrimination were very salient in the lives of African American and Latina/o students.

In addition to experiencing discrimination by adults, Latina/o students reported instances of peer discrimination by other Latina/o students from different

ethnic backgrounds. Rosenbloom and Way (2004) investigated intragroup discrimination and found that many Latina/o students described rivalries that existed between Dominican students and Puerto Rican students. Students explained that many instances of intragroup discrimination were the result of overt displays of ethnic pride, differences in linguistic styles (such as speaking “too quickly” or “too loudly”), and differences in immigration histories. Tensions and divisions surrounding these two ethnic groups were stressful for many Latina/o students.

In another study, Fisher, Wallace, and Fenton (2000) collected information about discrimination experienced by high school students and found results similar to those reported by Rosenbloom and Way (2004). The researchers surveyed 177 high school students who were enrolled at an ethnically diverse, academically competitive urban high school. The mean age of the students surveyed was 16 years old, and 55% of the students were female. African American (21%), Hispanic (23%), East Asian (25%), South Asian (8%), and White (23%) students participated in the study. Hispanic students reported many discriminatory experiences in institutional settings and were more likely than White or Asian students to feel victimized by institutional racism. Additionally, more than half of the Hispanic students reported that they had been hassled by store personnel because of their race.

A large number of Hispanic students believed that they experienced discrimination because racial biases led others to perceive them as dangerous or unintelligent (Fisher et al., 2000). Many students reported that they believed racial

biases led to negative encounters with the police. Of all the racial/ethnic groups represented in this study, the Hispanic group had the largest percentage of students report that they were discouraged from joining advanced level classes and the largest percentage of students who felt like they were wrongfully disciplined because of their race or ethnicity. Finally, more than half of Hispanic students reported that they experienced instances in which people assumed their English was poor because of their race/ethnicity (Fisher et al., 2000). This study mirrored the results found by Rosenbloom and Way (2004) and further reinforced the reality that Latina/o students do experience racial discrimination.

Martinez, DeGarmo, and Eddy (2004) conducted a study that focused on racial discrimination and institutional barriers encountered by Latina/o adolescents in schools. The researchers surveyed a diverse group of middle and high school students (38% Latina/o), and they found that more than half of the Latina/o participants reported a personal experience of discrimination in school. Of those students, many reported that they encountered institutional barriers that precluded them from meaningful participation in school. Examples of barriers included not receiving sufficient information, prohibitive fees, and a general lack of comfort around teachers and administrators. Latina/o students reported encountering more institutional barriers and more personal experiences of discrimination than students from other ethnic groups (Martinez et al., 2004).

Research on racial discrimination among Latina/o students has indicated that perceptions of discrimination tend to increase with age (Benner & Graham, 2011; Greene, Way, & Pahl, 2006). Benner and Graham (2011) conducted a

longitudinal study in which they measured perceptions of discrimination among urban, low-income Latina/o students over time. They found that many students reported that they had experienced discrimination during their first year of high school. When these students were surveyed again during their sophomore year, there was a significant increase in reports of discriminatory experiences. The results of another study revealed similar results. The data indicated that Puerto Rican and Dominican students experienced increasingly more instances of discrimination as they progressed through high school (Greene et al., 2006).

The role of racial discrimination in academic outcomes.

Greene et al. (2006) suggest that more research should explore the effects of racial discrimination on the academic or vocational achievement of ethnic minority students. The authors explain that experiences of discrimination by adults, such as teachers, might be strongly linked to academic achievement, and research should extend beyond the psychosocial context to examine the effects of racial discrimination on more diverse types of outcomes. In general, the literature indicates that discrimination is associated with academic motivation (Alfaro, Umaña-Taylor, Gonzales-Backen, Bámaca, & Zeiders, 2009), achievement motivation (Eccles, Wong, & Peck, 2006), grade point average (GPA) (Alfaro et al., 2009; DeGarmo & Martinez, 2006; Martinez et al., 2004; Umaña-Taylor et al., 2012), self-evaluation of academic performance and homework frequency (DeGarmo & Martinez, 2006), likelihood of dropping out of school (DeGarmo & Martinez, 2006; Martinez et al., 2004; Wayman, 2002), college attendance (Taggart & Crisp, 2010), and perception of school climate (Benner & Graham,

2011). Most of these academic outcomes are directly related to experiences of, or perceptions of, discrimination, but some outcomes, such as perception of school climate, are indirectly related.

Alfaro et al. (2009) conducted a longitudinal study that examined how experiences of racial discrimination affected students' GPA and academic motivation. The authors followed 221 Latina/o adolescents (79.6% Mexican-American) through their high school years and used data from three successive years for their study. The data indicated many significant relationships among discrimination, GPA, and academic motivation for boys, but not for girls. For boys, higher scores on the discrimination measure at wave 2 were significantly related to lower GPA at wave 2 and lower academic motivation at wave 2. When the authors examined this relationship using longitudinal data, they found that higher scores on the discrimination measure at wave 2 significantly predicted lower GPA at wave 3 and lower academic motivation at wave 3 for boys.

Eccles et al. (2006) further explored motivation and its relationship to racial discrimination by assessing three particular dimensions of achievement motivation among 629 economically diverse African American middle school students. The three dimensions of achievement motivation measured in this study were academic ability self concept, or how well students believed they were performing academically compared to their peers; perception of the importance of school, or how important students believed school to be compared to the other things they did; and perception of school's utility value, or the belief that one needs to do well in school now for later success. Participants were also asked to

provide information about perceived daily face-to-face racial discrimination by peers and teachers at school, anticipation of future racial discrimination, grades, and future goals. Results revealed that daily face-to-face racial discrimination at school significantly predicted declines in all three indicators of achievement motivation, as well as declines in GPA, from 7th grade to 8th grade.

Other studies examining discrimination and academic outcomes have reported similar results. DeGarmo and Martinez (2006) used structural equation modeling to study the relationships among discriminatory experiences, social support, and academic well-being. The authors measured academic well-being, a latent variable, with the following indicators: GPA, homework frequency, self-evaluation of academic performance, and a self-report of the likelihood one might drop out of school. In their study of 278 Latina/o 6th – 12th graders, the authors found that discrimination was negatively associated with academic wellbeing. Latina/o students who reported more discrimination experienced poorer academic well-being. In a related study (Martinez et al., 2004), the authors found that Latina/o adolescents experienced greater institutional barriers than non-Latina/o students, and encounters with those institutional barriers significantly predicted lower GPA and a higher likelihood of dropping out of school. The data indicated that Latina/o youth encountered an “unacceptably high” rate of institutional barriers and therefore reported lower GPAs and higher likelihoods of dropping out than students from other ethnic groups.

Umaña-Taylor et al. (2012) conducted a study in which they explored the longitudinal associations among perceived discrimination and adolescent

adjustment in school. The authors asked 178 Mexican-origin adolescents (53% female) to complete a measure of perceived discrimination, once at the end of seventh grade and again at the end of eighth grade. Participants' GPAs were obtained from official school records at both time points. In addition to GPA, two other measures of academic adjustment were assessed: teacher reports of externalizing behaviors in school and self-reports of deviant peer associations in school. Structural equation modeling revealed that for male students, greater levels of perceived discrimination in seventh grade predicted lower GPAs in eighth grade. This relationship was not significant among female participants. Neither externalizing behaviors nor deviant peer associations were directly related to perceived racial discrimination.

Rather than studying only students currently enrolled in school, Wayman (2002) tracked students who had dropped out of high school and compared their perceptions of teacher ethnic bias to the perceptions of students still in school. Three types of participants (students who dropped out of high school, students enrolled in high school but at risk for dropping out, and students enrolled in high school who were not at risk) from three different settings (urban, suburban, and rural) provided information about their perceptions of teacher ethnic bias. The full sample included 2,409 Latina/o (68%) and non-Latina/o White (32%) participants (56% male) from grades seven through 12. The results indicated that over 25% of the total sample felt that their teachers demonstrated ethnic bias meaning they liked the White students better than the Latina/o students. When students who dropped out of school were compared with the other two groups, the data

indicated that students who dropped out of school perceived the most teacher ethnic bias, and students at risk for dropping out perceived more teacher ethnic bias than students not at risk for dropping out of school.

Finally, regardless of enrollment status, Latina/o participants perceived more teacher ethnic bias than non-Latina/o White participants (Wayman, 2002). This study indicated a significant relationship between perceptions of teacher ethnic bias and dropping out of school; however, because these data are cross-sectional, it cannot be assumed that teacher ethnic bias caused students to drop out. Offering an alternative interpretation of the results, the author suggested it was possible that students who dropped out were more critical of school in general, and therefore may be more likely to perceive teacher ethnic bias.

Taggart and Crisp (2010) explored distal effects of discrimination and investigated how Latina/o students' perceptions of discrimination in high school influenced them to enroll in a two-year or four-year college after they graduated. The authors surveyed Latina/o students who were currently enrolled in two-year and four-year colleges and asked them about their high school experiences. The authors found that Latina/o students who experienced discrimination or perceived other students being discriminated against in high school were less likely to enroll in a four-year college. More specifically, students who were enrolled in a four-year college were more likely to perceive students at their high school as having been friendly to other ethnic groups, less likely to have perceived racial/ethnic fights at their school, and less likely to have felt put down by teachers or peers in their classes. The findings from this study suggested that a hostile or prejudiced

high school environment might contribute to the “tracking” of students to the community college level, limiting their chances of persisting in college and attaining a bachelor’s degree.

Other researchers have examined the indirect effects of discrimination on educational outcomes through perceptions of school climate (Benner & Graham, 2011). Benner and Graham (2011) used data from 668 9th-grade, Latina/o students (56% female, mean age 14.6) and found that students who reported more frequent experiences of discrimination were more likely to believe that the school climate was inhibiting. Further, students who believed the school climate was inhibiting were more likely to experience negative educational outcomes. Specifically, students who perceived the school climate to be inhibiting were absent more frequently than students who did not perceive the school climate as such. The authors explain that absenteeism is generally related to subsequent academic performance, and it is possible that students who were frequently absent were in the early stages of academic disengagement. The results of this study imply that discrimination can also have indirect effects on the academic outcomes of Latina/o youth.

In sum, research has indicated that many Latina/o adolescents experience discrimination on a regular basis, and experiences of racial discrimination can have negative consequences on Latina/o students’ academic performance (Alfaro et al., 2009; Benner & Graham, 2011; DeGarmo & Martinez, 2006; Fisher et al., 2000; Martinez et al., 2004; Rosenbloom & Way, 2004; Taggart & Crisp, 2010; Umaña-Taylor et al., 2012; Wayman, 2002). This is very concerning because

academic performance and achievement are associated with job acquisition and lifetime earning potential (Chapman et al., 2011; Julian & Kominski, 2011). Additionally, there is research that indicates gender is a moderator of the relationship between discrimination and academic outcomes (Alfaro et al., 2009; Umaña-Taylor et al., 2012). If Latina/o students are experiencing racial discrimination, they are at greater risk of poor academic outcomes, and subsequently at risk of unemployment, dependence on social services, and institutionalization (Chapman et al., 2011). In order to prevent Latina/o students from failing academically, many researchers have sought to identify protective factors that can buffer the negative effects of racial discrimination in schools. Ethnic identity is one factor that is thought to have protective effects.

Ethnic Identity

Ethnic identity theory.

Jean Phinney's (1993) chapter on ethnic identity development was published during a time when very little was known about this process among adolescents. Existing theories at the time tended to address the content of ethnic identity rather than the developmental process, and the majority of the research was carried out with adults rather than adolescents. Inspired by Erikson's (1968) ego-identity theory, Phinney recognized that identity formation is the central developmental task of adolescence and set out to create an integrated model of ethnic identity development.

Phinney's three-stage model of ethnic identity development has its roots in both Erikson's theory of ego-identity formation and the subsequent empirical

work of Marcia (1966). For Erikson, “identity is a subjective sense of wholeness that is achieved during adolescence through the experience of an identity crisis” (Phinney, 1993, p. 62). In this theory of ego-identity development, an individual explores his/her abilities, interests, and options, and then commits to a personal identity that guides future action. Erikson’s theory informed Marcia’s empirical research on identity in which he identified four possible ego-identity statuses: identity diffusion, identity foreclosure, identity moratorium, and identity achieved (Marcia, 1966).

Adolescents who are in identity diffusion have neither experienced an identity crisis nor have they committed to a particular identity. Adolescents in identity diffusion are not engaging in identity exploration. Identity foreclosure is characterized by a lack of identity exploration and a premature commitment to an identity based on the opinions and attitudes of others. Identity moratorium is the stage in which an individual is in the process of exploring identity options but has not yet made a commitment to a particular identity. Finally, identity achieved occurs when one arrives at a secure sense of self after a thorough period of exploration. Identity diffusion and foreclosure are generally thought of as less mature forms of identity, and an achieved identity is viewed as the optimum outcome of the identity development process.

Ethnic identity is an important component of one’s identity, or self-concept, that stems from one’s knowledge of his/her membership in a particular social group (in this case, ethnic group), as well as the value and emotional significance one attaches to that membership (Phinney, 1992). At the time

Phinney proposed her three-stage model of ethnic identity development, the empirical research on identity development was mostly carried out with White samples and very few referred to ethnicity as an identity domain (Phinney, 1993). Phinney analyzed the few existing models of ethnic identity and found that many only applied to one ethnic group. Additionally, the extant models lacked validating empirical support. Phinney recognized these limitations and proposed a theory of ethnic identity development that was theoretically based in Erikson's identity theory and Marcia's ego-identity statuses, congruent with the existing models of ethnic identity development, and applicable to all ethnic groups.

To validate her theory, Phinney conducted interviews with ethnically diverse 10th-grade students, and three researchers independently assigned students to one of Phinney's four hypothesized categories of ethnic identity (Phinney, 1989). Students who were in ethnic identity achieved or moratorium were easy to classify, but coders had a difficult time distinguishing students who were in ethnic identity diffusion from those who were in ethnic identity foreclosure. Phinney reevaluated her model and identified three stages of ethnic identity development: unexamined ethnic identity, ethnic identity search/moratorium, and ethnic identity achievement.

The first stage, unexamined ethnic identity, has components of both ego-identity foreclosure and diffusion, and it is marked by a lack of ethnic identity exploration. The second stage, ethnic identity search/moratorium, occurs when a person meaningfully explores his/her ethnicity. This stage continues until an individual reaches the last stage, identity achievement. Ethnic identity

achievement is thought of as the ideal outcome of the ethnic identity process. In this stage, individuals accept and internalize their ethnicity and have a clear understanding of what their ethnicity means to them.

Because Phinney's model of ethnic identity development applies to various ethnic groups, many researchers use her measure, the Multigroup Ethnic Identity Measure (MEIM; Phinney, 1992). Research has demonstrated that ethnic identity is a factor associated with academic success (Altschul, Oyserman, & Bybee, 2006; Eccles et al., 2006; Ong, Phinney, & Dennis, 2006), and two studies have shown that ethnic identity can buffer the negative consequences of discrimination on certain academic outcomes (Eccles et al., 2006; Umaña-Taylor et al., 2012).

The role of ethnic identity in academic outcomes.

Cross-sectional research has shown that ethnic identity is positively related to academic outcomes, such as GPA (Chang & Le, 2010), and teacher evaluations of academic performance (Supple, Ghazarian, Frabutt, Plunkett, & Sands, 2006). In a study of Asian American and Latina/o students, Chang and Le (2010) found that ethnic identity was a significant predictor of GPA for Latina/o students between the ages of 14 and 15. Students who reported more positive perceptions of their ethnic identity had higher GPAs than students with less positive perceptions of their ethnic identity. In another study of Latina/o middle school students, the authors found a significant relationship between ethnic identity affirmation and teacher evaluations of school performance (Supple et al., 2006). Specifically, Latina/o students who reported more positive feelings toward

their ethnic group were rated higher by their teachers on grades, cooperation, and work habits in the classroom than those with less positive feelings.

Altschul et al. (2006) used a tripartite model of racial ethnic identity to study the academic outcomes of urban, low-income Latina/o and African American 8th-grade students as they transitioned into high school. The authors' conceptualization of racial ethnic identity included three components: connectedness, awareness of racism, and embedded achievement. Connectedness refers to the level of connectedness one feels to his/her racial/ethnic group; awareness of racism refers to a realization that some people might not value certain racial/ethnic groups; and embedded achievement refers to the feeling that one's racial/ethnic group is characterized by academic attainment (Altschul et al., 2006).

Altschul et al. (2006) found that racial ethnic identity was associated with academic performance. Although GPA decreased from 8th-grade to 9th-grade, the results indicated that racial ethnic identity was associated with better academic achievement in that it buffered youth from even steeper declines in grades over time. Students with a strong racial ethnic identity experienced less extreme declines in GPA than students with a weak racial ethnic identity.

Ong et al. (2006) conducted a longitudinal study that examined the protective effects of various family and cultural resources among 123 Latina/o college students. The authors found a significant, positive relationship between ethnic identity (measured by Phinney's MEIM) and GPA. Results also indicated that among participants from very low socioeconomic status backgrounds, those

with stronger ethnic identities had higher GPAs than participants with weaker ethnic identities.

Umaña-Taylor et al. (2012) conducted a study in which the authors explored the associations among racial discrimination, ethnic identity, and academic adjustment with a sample of Latina/o middle school students. They were surprised to find that higher ethnic affirmation in 7th-grade predicted lower GPAs in 8th-grade for male participants because initially, they had expected the opposite result. This relationship was not significant for female participants. The authors suggest that this finding might have to do with the developmental stage of the participants (i.e. early adolescence) and possible stereotype threats regarding their academic potential.

Middle school is a time when academic tracking begins and ethnic minority adolescents begin to be “tracked” into lower ability groups (Eccles & Roeser, 2003). As a result, ethnic minority adolescents receive the message that their ethnic group is not academically successful, and it is possible that participants with high ethnic affirmation may underperform in a manner that is consistent with the stereotype about their group. Adolescents with high ethnic affirmation may begin to feel anxious about conforming to the negative stereotype about their ethnic group, and the anxiety can interfere with their academic success (Steele & Aronson, 1995). Given these results, Umaña-Taylor et al. (2012) suggest that because middle school students are in the early stages of identity development, ethnic affirmation might not serve as a protective factor until later

in adolescence, when youth form a more mature understanding of their ethnicity and the role it plays in their lives.

In sum, research on ethnic identity and academic outcomes suggests that a strong ethnic identity is often related to positive academic outcomes (Altschul et al., 2006; Chang & Le, 2010; Eccles et al., 2006; Ong et al., 2006; Supple et al., 2006; Umaña-Taylor et al., 2012). Other researchers have further explored this relationship by seeking to understand how ethnic identity can serve as a protective factor in the relationship between racial discrimination and academic outcomes.

Ethnic identity as a buffer of racial discrimination on academic outcomes.

There are two studies that have explored the moderating effects of ethnic identity in the relationship between racial/ethnic discrimination and academic outcomes. One study that has explored this relationship was conducted with African American middle school students (Eccles et al., 2006). Results supported a protective-reactive model of resilience in that a strong, positive connection to one's ethnic group reduced the magnitude of the association between experiences of racial discrimination and declines in both achievement motivation and academic performance.

Umaña-Taylor et al. (2012) also conducted a study of ethnic identity as a moderator of the relationship between racial discrimination and academic outcomes in Mexican-American middle school students. To date, this is the only published study that examines ethnic identity as a moderator of racial discrimination and academic outcomes among Latina/o adolescents.

When analyzing externalizing behaviors in school, the authors found that for males, ethnic identity affirmation moderated the relationship between perceived discrimination and externalizing behaviors. These results supported a protective-stabilizing model of resilience. For males with low levels of ethnic identity affirmation, higher levels of perceived discrimination significantly predicted more reported instances of externalizing behaviors. But for males with high levels of ethnic identity affirmation, perceived discrimination was negatively associated with externalizing behaviors.

In a previous study, Umaña-Taylor, Updegraff, and Gonzales-Backen (2011) suggest that Latina/o youth who have higher levels of ethnic identity affirmation, or more positive feelings toward their ethnic group, may be more likely to seek out and find constructive ways of coping with ethnicity related stressors to avoid perpetuating negative stereotypes about their ethnic group. In order to further explore the relationship between ethnic identity and coping suggested by Umaña-Taylor et al. (2011), coping efficacy was examined alongside ethnic identity in the present study.

Coping Efficacy

Literature has indicated that coping efficacy, or the belief that one has dealt well with stressors in the past and can deal effectively with the stressors one is likely to encounter in the future, can help individuals deal with stressful events (Sandler, Tein, Mehta, Wolchik, & Ayers, 2000). Coping efficacy is different from coping strategies in that coping efficacy is a subjective evaluation of how

one believes he/she handles stressors, and coping strategies refer to different methods of dealing with stressors (Sandler et al., 2000).

There are different models of coping efficacy; however, all of the models share unifying characteristics (Sandler et al., 2000). First, the use of effective and ineffective coping efforts affects coping efficacy. An individual's perception of his/her coping abilities is reinforced by positive or negative outcomes with which the individual has coped. If a person uses a certain coping strategy and subsequently experiences a positive outcome, he/she will be more likely to perceive increased coping efficacy. Second, coping efficacy affects the type of coping efforts used. People who believe they have control over a situation are more likely to engage in coping efforts that actively engage the stressful events. Examples of these coping efforts include planning, problem solving, and cognitive reframing. The third unifying proposition states that coping efficacy leads to lower psychological symptomology following exposure to stress. Sandler et al. (2000) provided the example of a study in which urban, inner-city children dealt with troublesome situations. Children who demonstrated efficacy in dealing with difficulties adapted well and children who did not demonstrate efficacy did not adapt well. Finally, the authors explained a coping moderation model in which "positive coping efforts relate to lower psychological symptoms as a function of whether they are perceived as effective" (p. 1101). Among individuals who utilize positive coping efforts, those who demonstrate high coping efficacy have lower psychological symptoms than those who believe their coping strategies are ineffective.

There is very little published research on coping efficacy, and there is no published research on coping efficacy, discrimination, and academic outcomes among Latina/o youth. Based on the definition and conceptualization of coping efficacy in the extant literature, it is theoretically possible that coping efficacy could contribute to the academic success of Latina/o adolescents by helping them deal with stressors, such as discrimination. In addition, Umaña-Taylor et al. (2012) suggested that a strong ethnic identity might help Latina/o youth develop effective methods of coping with discrimination. As mentioned, there is very little published in this area so I will review the following studies on coping efficacy that are tangentially related to the present study.

Hackett and Byars (1996) reviewed the literature on African American women's career development and used social cognitive theory as a guiding framework. One component of African American women's career development that they discussed was coping efficacy in response to discrimination. Referring to the coping moderation model, it is possible that African American women who believe they are coping effectively with institutional barriers such as racism or sexism will experience more career success than women who demonstrate low coping efficacy (Hackett & Byars, 1996). The authors explain, "strong efficacy for coping with obstacles and barriers can result in successful performance despite expectations of barriers and impediments such as racism and discrimination" (Hackett & Byars, 1996, p. 329). In terms of the proposed study, it is possible that higher levels of coping efficacy will help buffer the negative effects of perceived racial discrimination on the academic outcomes of youth.

In an empirical study investigating coping efficacy and problem behaviors, the authors examined 51 nine- to 12-year-old children's perceptions and appraisals of marital conflict (Cummings, Davies, & Simpson, 1994). The researchers presented the children with various scenarios that portrayed parents arguing with one another and then asked the children how they would respond to the scenario if it were their parents arguing. The researchers then asked the children how their actions might make them feel better about the situation and how much they believed their actions would end their parents' argument. Results revealed a significant positive correlation between coping efficacy and psychological adjustment for boys, but not for girls. The authors examined only the relationship between coping efficacy and problem behavior and did not explore coping efficacy as a protective factor.

Research on physiological reactions to stressful events has indicated that high coping efficacy can lead individuals to successfully carry out difficult, or subjectively aversive tasks (Bandura, Taylor, Williams, Mefford, & Barchas, 1985). Bandura et al. (1985) subjected twelve women who were severely spider phobic to tests of phobic behavior and measures of coping efficacy. After the initial tests, the women were repeatedly shown via modeling how to interact with the spiders, assigned to coping efficacy tasks, and then the women's levels of catecholamines were documented. Results of this study indicated that initially, the women had very high levels of epinephrine and norepinephrine when confronted with a spider. However, as they learned effective ways to deal with the spiders via modeling and subsequently increased their coping efficacy, their catecholamine

reactivity was greatly reduced. The results of this study indicate that coping efficacy can serve as a protective factor in that it can change an individual's physiological reactions to stress in the presence of a stressor.

In a study of gender and ethnic differences in coping with career barriers, Lipshits-Braziler and Tatar (2012) found both gender and ethnic differences in 406 university students' perceptions of career barriers and sense of coping efficacy. This study took place in Israel, and participants were 156 Israeli-born Jews, 133 Jewish immigrants from former Soviet Union, and 117 Arab-Israelis. This study was cross-sectional, and participants completed a questionnaire that assessed perceptions of personal career barriers, perceptions of ethnic group career barriers, sense of coping efficacy, and the use of coping strategies. Results revealed an inverse relationship between perceptions of career barriers and sense of coping efficacy. Additionally, results indicated a significant main effect of gender. Women, across all ethnic groups, perceived more career barriers related to childcare and family issues than men, and women reported a lower sense of coping efficacy in dealing with this type of career barrier than men. The results of this study speak to the importance of taking gender into account when studying sense of coping efficacy in different domains.

In general, the small literature on coping efficacy indicates that individuals who believe they are effectively coping with a stressful or difficult situation tend to experience more positive outcomes than those who do not believe in the efficaciousness of their coping behaviors. Although there are no published studies on coping efficacy and academic outcomes among adolescents, it is possible that

coping efficacy could serve as a protective factor and contribute to positive academic outcomes among Latina/o adolescents.

Gender

The previous literature reviewed about racial discrimination, ethnic identity, and coping efficacy suggest that it is important to consider the role of gender when analyzing these constructs. In the racial discrimination literature, Alfaro et al. (2009) presented results that suggested males and females experience racial discrimination differently in the academic domain. In their longitudinal study of Latina/o high school students, perceived discrimination significantly predicted academic motivation for boys, but not for girls. In the ethnic identity literature, Umaña-Taylor et al. (2012) demonstrated that ethnic affirmation moderated the relationship between racial discrimination and externalizing behaviors for boys, but not for girls. Finally, in the coping efficacy literature, Lipshits-Braziler and Tatar (2012) showed that there are gender differences in coping efficacy in certain contexts, with ethnically diverse women reporting a lower sense of coping efficacy in dealing with family related career barriers than men.

In their study of middle school-aged Mexican adolescents, Umaña-Taylor et al. (2012) explain that gender differences are particularly important to take into account when studying Mexican youth because of the documented differences in gender socialization processes that boys and girls experience in adolescence. In a qualitative study by Raffaelli and Ontai (2004), 22 Latina women were asked to describe their upbringing with regard to gender socialization, and three important

themes emerged: differential treatment of boys and girls, enforcement of stereotypically feminine behavior among daughters, and curtailment of girls' activities outside the home.

In a larger follow-up study (Raffaelli & Ontai, 2004), 166 Latina/o university students (58% female) completed a survey that assessed gender role socialization, differential treatment of sons and daughters, parental gender role attitudes, family language use, and family background characteristics. The qualitative findings of the first study were largely confirmed. Female participants were more likely than male participants to engage in stereotypically feminine activities and take care of indoor household responsibilities. Additionally, female participants reported that they had more limitations as a child than did male participants. Finally, results suggested that Latina mothers engage in more intense gender socialization practices with their daughters than Latino fathers do with their sons.

Umaña-Taylor et al. (2012) suggest that because Latino boys are generally freer than Latina girls to explore and define themselves in extrafamilial contexts, perceiving racial or ethnic discrimination in these contexts might be more detrimental for boys' development than for girls'. Given the importance of gender in the results of the studies described above, gender was analyzed in the present study as a potential moderating variable in the relationships among racial discrimination, ethnic identity, coping efficacy, and academic outcomes.

Rationale

Although Latina/os are the largest, youngest, and fastest growing ethnic minority group in the United States, they attain less education than other racial/ethnic groups (Ennis et al., 2011; Chapman et al., 2011). This is concerning for many reasons, namely because low educational attainment is related to several undesirable outcomes including unemployment, reliance on social services, and poor health outcomes (Chapman et al., 2011).

Research has indicated that racial discrimination is a factor that is related to the lower levels of education attained by Latina/os (Alfaro et al., 2009; DeGarmo & Martinez, 2006; Martinez et al., 2004; Umaña-Taylor et al., 2012). Specifically, studies have shown that among Latina/o adolescents, discrimination is related to academic motivation (Alfaro et al., 2009), GPA (Alfaro et al., 2009; DeGarmo & Martinez, 2006; Martinez et al., 2004; Umaña-Taylor et al., 2012), self-evaluation of academic performance and homework frequency (DeGarmo & Martinez, 2006), likelihood of dropping out of school (DeGarmo & Martinez, 2006; Martinez et al., 2004; Wayman, 2002), college attendance (Taggart & Crisp, 2010), and perception of school climate (Benner & Graham, 2011). In order to improve the academic outcomes of Latina/os, it is important to gain a deeper understanding of the relationship between discrimination and academic outcomes.

Despite experiencing discrimination, some Latina/os students still succeed academically. Resilience theory suggests that protective factors can either attenuate or eliminate the relationship between risk factors and associated outcomes (Fergus & Zimmerman, 2005). Two protective factors were examined

in the present study: ethnic identity and coping efficacy. It was expected that these two variables would moderate the relationships between racial discrimination and academic outcomes. The protective model of resilience would be supported if ethnic identity and/or coping efficacy moderates the relationships between perceived racial discrimination and academic outcomes.

In resilience theory, the protective model has two-sub-models: a protective-stabilizing model and a protective-reactive model. If the results were to support a protective-stabilizing model of resilience, there would be no relationship between perceived racial discrimination and academic outcomes for participants with higher ethnic identity and/or higher coping efficacy. If the results were to suggest a protective-reactive model, the relationship between perceived racial discrimination and academic outcomes would still exist, but it would be attenuated for participants with higher ethnic identity and/or higher coping efficacy.

There is only one published study (Umaña-Taylor et al., 2012) that explores the moderating effect of ethnic identity on the relationship between racial discrimination and academic outcomes among Latina/o youth. There are no studies that have explored the moderating effect of coping efficacy on this relationship. Umaña-Taylor et al. (2012) study discrimination, ethnic identity, and academic outcomes among Mexican American middle school students. The authors found that among middle school aged, Mexican American males, ethnic identity affirmation served as both a protective factor and a risk factor. When examining externalizing behaviors, results indicated that ethnic identity

affirmation buffered the negative effects of discrimination. However, when examining GPA, participants with higher ethnic identity affirmation reported lower GPAs one year later than participants with lower ethnic identity affirmation. These relationships were only significant among male participants, which speaks to the importance of gender as a potential moderator in the relationship between discrimination and academic outcomes. Therefore, gender will be analyzed as a moderator in the proposed study.

Umaña-Taylor et al. (2012) suggest that perhaps middle school students in the early stages of adolescence may not be able to fully reap the protective benefits of a well-developed ethnic identity because they are still in the process of exploring and developing a more mature understanding of what their ethnicity means to them. The authors continue to say that older adolescents may be more likely to benefit from the protective properties of ethnic identity because they have had more time to explore their own ethnic identity and may have a more developed understanding of the role of ethnicity in their lives. The proposed study will address this limitation by studying the relationships among discrimination, ethnic identity, coping efficacy, and academic outcomes among high school aged, Latina/o adolescents.

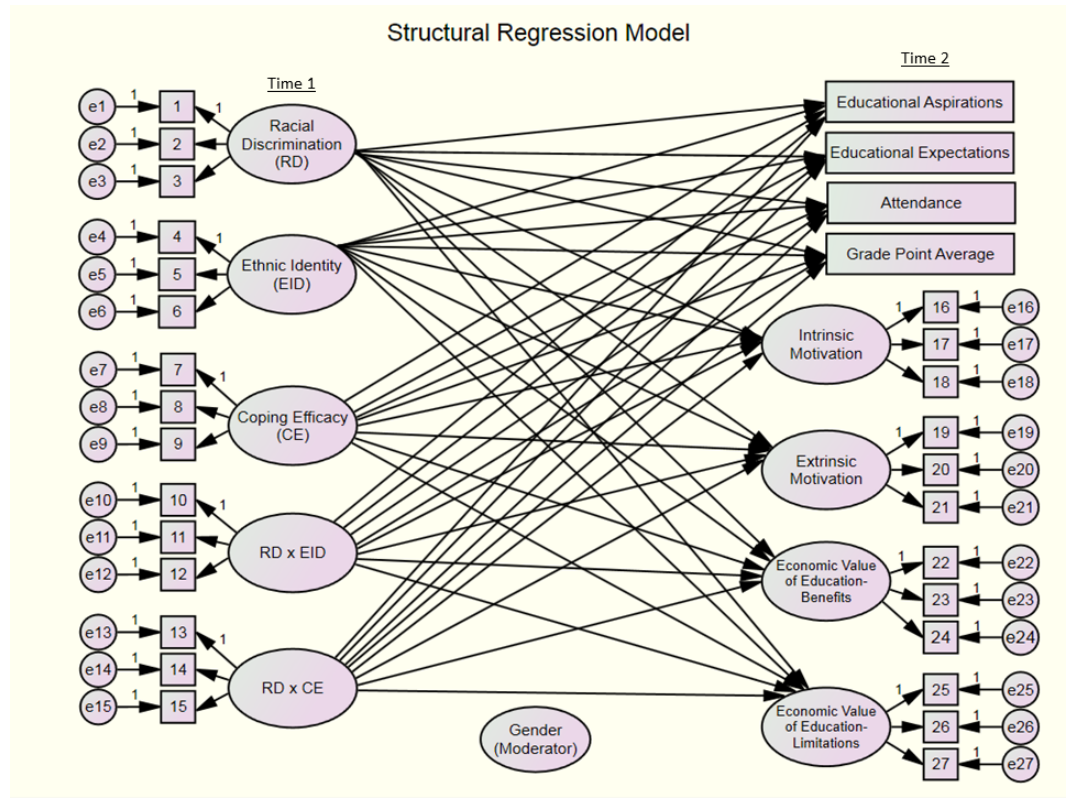
Statement of Hypotheses

- I. I predict the data will be a good fit for my model illustrated in Figure 1. Specifically, I predict the following:
 - i. Higher reports of perceived racial discrimination in 9th-grade will be associated with poorer academic outcomes in 10th-grade, as

- measured by GPA, attendance, academic motivation, educational aspirations, educational expectations, and economic value for education, while controlling for 9th-grade academic outcomes.
- ii. Stronger ethnic identity in 9th-grade will be associated with better academic outcomes in 10th-grade, as measured by GPA, attendance, academic motivation, educational aspirations, educational expectations, and economic value for education, while controlling for 9th-grade academic outcomes.
 - iii. Higher coping efficacy in 9th-grade will be associated with better academic outcomes in 10th-grade, as measured by GPA, attendance, academic motivation, educational aspirations, educational expectations, and economic value for education, while controlling for 9th-grade academic outcomes.
 - iv. Ethnic identity in 9th-grade will moderate the relationship between perceived discrimination in 9th-grade and academic outcomes in 10th grade, such that ethnic identity will reduce the negative effect of perceived discrimination on academic outcomes, while controlling for 9th-grade academic outcomes.
 - v. Coping efficacy in 9th-grade will moderate the relationship between perceived discrimination in 9th-grade and academic outcomes in 10th-grade, such that higher coping efficacy will reduce the negative effect of perceived discrimination on academic outcomes, while controlling for 9th-grade academic outcomes.

vi. Gender will moderate the relationships among discrimination, ethnic identity, coping efficacy, and academic outcomes in that these relationships will be significant for male participants, but not for female participants.

Figure 1. Proposed Model of the Associations Among Racial Discrimination, Ethnic Identity, Coping Efficacy, Gender, and Academic Outcomes



Method

The present study is part of a larger, longitudinal study that explores the relationships among racial and cultural processes, natural mentoring relationships, and academic outcomes of urban, low-income Latina/o youth. The current study investigated the relationships among perceived racial discrimination, ethnic identity, coping efficacy, and academic outcomes. Specifically, this study explored how ethnic identity and coping efficacy buffer the effects of racial discrimination on the academic outcomes of Latina/o youth over their first two years of high school.

Context

Participants in this study were recruited from two public high schools in a major city in the Midwest. A purposive sampling strategy was used to identify two predominately Latina/o high schools targeted in the study. Purposive sampling is used when an investigator uses his/her expert judgment to identify units that are representative of the population of interest (Singleton, Straits, Straits, & McAllister, 1988). The demographic characteristics of each school and the surrounding communities are presented below.

School one.

The demographic makeup of the first public high school is 94.8% Latina/o, 2.1% Black, 1.3% White, 1.2% Asian, .2% American Indian, and .4% two or more races (Illinois School Report Card, 2011). The demographic makeup of the school is more homogeneous than that of the surrounding community. The demographic makeup of the zip code in which the school is located is 55.9%

Latina/o, 40.8% White, 18.2% Black, 9% Asian, .9% American Indian, and 2.9% two or more races. Of the Latina/o population in this area, 89.3% of the residents are Mexican or Mexican-American (US Census Bureau, 2010). Because residents are allowed to choose multiple racial/ethnic categories, the sum of the demographic rates is greater than 100%.

The majority (95.3%) of the students who attend this school are classified as low-income students because they meet at least one of the following criteria: student's family receives public aid, student lives in an institution for neglected or delinquent children, student is supported in a foster home with public funds, or student is eligible to receive free or reduced-priced lunches. Additionally, the school's attendance rate is 83.3%, the mobility rate is 10.3%, and the graduation rate is 82.3% (Illinois School Report Card, 2011). The high school is a community school, which means that it operates under an open enrollment process to students living within the school's attendance area. Due to the open enrollment policy, students have a wide range of academic abilities and achievement.

School two.

The demographic makeup of the second public high school is 91.0% Latina/o, 1.1% Black, 0.5% White, and 7.5% two or more races (Illinois School Report Card, 2011). The demographic makeup of the school is slightly more homogeneous than that of the surrounding community. The demographic makeup of the zip code in which the school is located is 75.9% Latina/o, 37.3% White, 16.6% Black, 1.1% Asian, 1.0% American Indian, and 3.6% two or more races.

Of the Latina/o population in this area, 61.1% of the residents are Mexican or Mexican-American (US Census Bureau, 2010).

The majority (86.0%) of the students who attend this school are low-income students. The school's attendance rate is 74.7%, the mobility rate is 24.7%, and the graduation rate is 65.2% (Illinois School Report Card, 2011). All students living in the school's attendance area are eligible to enroll, and students who live outside the attendance area can apply. Due to this open enrollment policy, students have a wide range of academic abilities and achievement.

Participants

To recruit participants, research assistants visited all 9th-grade homeroom classes and gave a presentation to students about the research project. Research assistants included both graduate and undergraduate students, and all research assistants involved with the study completed online and in-person human subjects training. Presentations were conducted in English or Spanish by a diverse research team that included bicultural and bilingual members. These presentations helped to ensure two things: first, that all freshmen students were offered the opportunity to participate in the study, and second, that the sample would be comprised of students with a wide range of academic abilities. Parental consent forms and youth assent forms were distributed to all 9th-grade students in both English and Spanish. Students were informed of their rights as a participant, the risks and benefits of the study, and the compensation they would receive. Students were also told that their participation was voluntary, they could decline to participate at any time, and all their information would be kept confidential. Students were

encouraged to return the parental consent and youth assent forms regardless of their participation in the study. When students returned the consent and assent forms they were given a candy bar and they were entered in a raffle to win one of five pairs of movie tickets or an iPod Touch. The recruitment procedure was the same at both schools.

The participants in this study were 446 students who completed surveys at both Time 1 (9th-grade) and Time 2 (10th-grade). Participants were approximately 47% male and 53% female, and the mean age of participants during their freshman year was 15.07 years ($SD = 0.59$). The majority of the sample was of Mexican descent ($n = 396, 88.79\%$), and the remaining participants identified as Puerto Rican ($n = 26, 5.83\%$), Guatemalan ($n = 4, <1\%$), Salvadoran ($n = 3, <1\%$), Honduran ($n = 2, <1\%$), Dominican ($n = 1, <1\%$), and Ecuadorian ($n = 1, <1\%$). The remaining participants ($n = 13, 2.91\%$) did not report their ethnicity. About a fifth of the participants were first-generation immigrants ($n = 87, 19.51\%$), and the majority of participants were second-generation immigrants ($n = 246, 55.16\%$). The remaining participants were third generation ($n = 8, 1.79\%$) and fourth generation ($n = 23, 5.16\%$). Eighty-two participants (18.39%) did not report their generational status. Participants were asked to report the highest level of education achieved by each of their parents. On average, participants' mothers and fathers both had education levels that were between "less than a high school education" and a "high school diploma or GED."

Procedures

Trained research assistants (many of whom were bicultural individuals

fluent in both English and Spanish) gave students self-administered surveys during school hours. Students could choose to take the survey in either English or Spanish. Survey completion time was approximately 45-50 minutes. Surveys were administered in classrooms, and participants filled out their survey as a research assistant read the survey out loud to accommodate students with varying reading capabilities. Each survey was assigned a random identification number to ensure the confidentiality of participants' identities. Due to the longitudinal design of the larger study, students were surveyed once during their freshman year, and again during their sophomore year. Students received a \$10 gift card to a local entertainment store when they completed their survey.

In order to maintain a high retention rate, several attempts were made to locate students who were no longer enrolled at their high school during the second year. A follow-up team comprised of trained research assistants was in charge of finding and contacting hard-to-reach participants no longer enrolled at the high schools. Members of the follow-up team met participants in a location that was convenient for the participant and administered the survey. The retention rate of participants from 9th-grade to 10th-grade was 86.67%.

Measures

Participants in this study provided demographic information and completed measures of perceived racial discrimination, ethnic identity, coping efficacy, and academic outcomes (see Appendix A for a copy of each measure in this study). Each measure is described in more detail below.

Demographic information.

Participants were asked to report their age, gender, race/ethnicity, generational status, and parents' level of educational attainment. Generational status was calculated using information about the place of birth of participants, their parents, and their grandparents (inside or outside of the U.S.). Students were considered first generation if they were born outside the U.S., second generation if one or more of their parents was born outside the U.S. and the student was born in the U.S., and third generation if one or more of their grandparents was born outside the U.S. and both parents and the student were born in the U.S. Students were considered fourth generation if the student, their parents, and all their grandparents were born in the U.S.

Perceived racial discrimination.

Perceived racial discrimination was evaluated with a 21-item measure of racial discrimination (Way, 1997). This measure assesses participants' experiences of discrimination by adults in school and out of school, and it is composed of three subscales: a) Adolescent Perceived as Threatening (9 items), b) Adolescent Harassed but Not Perceived as Threatening (10 items), and c) Perceptions of Positive Discrimination (3 items). Only the first two subscales were used in the present study. An example of an item from the Adolescent Perceived as Threatening subscale is: "how often do you feel that adults feel threatened by you because of your race or ethnicity?" An example of an item from the Adolescent Harassed subscale is: "how often do you feel that adults make fun of you because of your race or ethnicity?"

Responses to each item in this measure were assessed with a five-point

Likert scale ranging from 0 (never) to 4 (all the time). Mean scores were calculated for each participant by summing the responses to each item and dividing it by the number of items in the measure. Higher scores indicate higher perceptions of racial discrimination. The first subscale, adolescent perceived as threatening, demonstrated excellent reliability ($\alpha = .93$), and the second subscale, adolescent harassed but not perceived as threatening also demonstrated excellent reliability ($\alpha = .93$).

Ethnic identity.

Ethnic identity was assessed with Phinney's (1992) Multigroup Ethnic Identity Measure (MEIM). The MEIM consists of 14 items and it assesses ethnic identity with three subscales: affirmation and belonging (5 items) which evaluates participants' feelings of pride, belonging, and attachment to their ethnic group, ethnic identity achievement (7 items) which evaluates participants' exploration and commitment to their ethnic identity, and ethnic behaviors (2 items), which assesses involvement in ethnic practices and behaviors. An example of an item from the affirmation and belonging subscale is: "I am happy that I am a member of the group I belong to." An example of an item from the ethnic identity achievement subscale is: "I have a clear sense of my ethnic background and what it means for me." Finally, an example of an item from the ethnic behaviors subscale is, "I am active in organizations or social groups that include mostly members of my own ethnic group." Items were measured on a four-point scale ranging from 1 (strongly disagree) to 4 (strongly agree). Mean scores were calculated for each participant by summing the responses to each item and

dividing it by the number of items in the measure. The MEIM in this study demonstrated very good reliability ($\alpha = .83$).

Coping efficacy.

Coping efficacy was measured using Sandler's (2000) seven-item Coping Efficacy Scale. In this study, participants were primed to think about coping efficacy as it relates to problems related to race or ethnicity rather than problems in general. The measure examines both problem-focused (5 items) and emotion-focused (2 items) coping. This scale assesses how well participants believe they have coped with problems related to race or ethnicity in the past month, as well as how well they believe they will cope with problems having to do with race or ethnicity in the future. An example of a problem-focused item is: "Overall, how well do you think that the things you did during the last month worked to make your problems better?" An example of an emotion-focused item is: "Overall, how good do you think you will be at handling your feelings when problems come up in the future?" Participants rated the items on a four-point scale ranging from "Not at All Good (0)" to "Very Good (3)." Mean scores were calculated for each participant by summing the responses to each item and dividing it by the number of items in the measure, and higher scores indicated greater coping efficacy. This scale demonstrated very good reliability in the present study ($\alpha = .88$).

Academic achievement.

Participants' academic data come from official school records provided by school district personnel. Academic achievement data include participants' cumulative unweighted GPA for the fall and spring semesters and attendance

records. GPA was measured on a 4.0 scale, and attendance data include total days present and total days absent for a given academic year. GPA and attendance data were collected in both 9th grade and 10th grade. GPA data that were collected in June, at the end of each school year, were analyzed in this study.

Academic motivation.

The Intrinsic and Extrinsic Motivation Scale (Lepper, Corpus & Iyenger, 2005) was used to assess academic motivation. This 33-item measure contains two scales: intrinsic motivation and extrinsic motivation. The intrinsic motivation scale measures the degree to which participants see themselves as being intrinsically motivated, and the extrinsic motivation scale measures the degree to which participants see themselves as being extrinsically motivated. Responses were measured on a five-point scale ranging from 1 (*Not at all true for me*) to 5 (*Very true for me*). The intrinsic motivation scale (17 items) has three subscales: a) preference for challenge, b) focus on curiosity, and c) desire for independent mastery. Sample items from each subscale respectively include: “I like hard work because it is a challenge,” “I ask questions in class because I want to learn new things,” and “I like to try to figure out how to do school assignments on my own.” This scale demonstrated good reliability ($\alpha = .90$) among ethnically diverse 3rd through 8th grade students from public schools (Lepper et al., 2005). The extrinsic motivation scale (16 items) has three subscales: a) desire for easy work, b) dependence on teacher, and c) desire to please teacher. Sample items from each subscale respectively are “I like easy work that I am sure I can do,” “When I don’t understand something right away I want the teacher to tell me the answer,” and “I

read things because the teacher wants me to.” A mean intrinsic motivation score and a mean extrinsic motivation score was calculated for each participant. Both the intrinsic subscale ($\alpha = .93$) and the extrinsic subscale ($\alpha = .86$) demonstrated very good reliability.

Educational aspirations and expectations.

Two questions were asked to assess the academic aspirations and expectations of participants. These questions were based on a slightly modified measure used by Stevens, Putchell, Ryu, and Mortimer (1992). Educational aspirations were measured by asking, “if it were up to you, how far would you like to go in school?” Responses range from 1 (*less than a high school graduate*) to 5 (*more than a four-year degree [example, Master’s, doctoral, law]*). Educational expectations were assessed with the following question: “some people do not get as much education as they would like, but other people get the level of education they would like. What is the highest level of schooling you *really* think you will finish?” Responses on this item also ranged from 1 (*less than a high school graduate*) to 5 (*more than a four-year degree [example, Master’s, doctoral, law]*).

Economic value of education.

The Benefits and Limitations of Education scale was used to assess participants’ economic value of education (Murdock, Anderman, & Hodge, 2000). This 15-item measure contains two subscales: The Benefits of Education subscale (5 items) and the Limitations of Education subscale (10 items). The Benefits of Education subscale measured participants’ beliefs that an education is

necessary for better employment and economic opportunities in the future, and the Limitations of Education subscale measured participants' beliefs that an education is not necessary for better employment and economic opportunities in the future. An example of an item from the Benefits of Education subscale is, "If I do well in school, I will get a good job," and an example of an item from the Limitations of Education subscale is, "If I get bad grades, I can still get a good job." Participants were asked to rate their agreement with each item on a five-point Likert scale ranging from 1 (*agree very much*) to 5 (*disagree very much*). Both the Benefits of Education subscale ($\alpha = .83$) and the Limitations of Education subscale ($\alpha = .86$) demonstrated adequate reliability. Each subscale was scored separately, and mean scores were calculated for each subscale. Higher scores on the Benefits of Education subscale indicated greater perceived economic benefits of education, while higher scores on the Limitations of Education subscale indicated more perceived limitations of education.

Results

Descriptive Results and Preliminary Analyses

Participants completed measures of racial discrimination, ethnic identity, coping efficacy, and academic outcomes at Time 1 and at Time 2. The number of responses, mean, and standard deviation of each variable are presented in Table 1 below. Results are presented for all participants, for female participants, and for male participants.

Pearson's bivariate correlation analyses were conducted to analyze the relationships among the predictor and criterion variables. The results of these analyses can be found in Table 2 below.

Table 1.

Descriptive statistics of predictor and criterion variables for whole sample and by gender.

Predictor Variable	All Participants						Female Participants						Male Participants					
	Time 1		Time 2		n	SD	Time 1		Time 2		n	SD	M	%	Time 1		Time 2	
	M	SD	M	SD			M	SD	M	SD					M	SD	M	SD
Moderator Variables																		
Racial Discrimination	396	0.38	0.56	-	-	211	0.34	0.55	-	-	184	0.43	0.58	-	-	-	-	-
Ethnic Identity	395	2.84	0.46	-	-	211	2.91	0.46	-	-	183	2.76	0.44	-	-	-	-	-
Coping Efficacy	394	1.80	0.60	-	-	210	1.76	0.58	-	-	183	1.83	0.63	-	-	-	-	-
Criterion Variables																		
GPA	382	2.38	0.90	2.54	0.79	196	2.49	0.89	2.65	0.72	180	2.25	0.90	2.41	0.84			
Attendance	400	89%	0.12	86%	0.15	212	89%	0.12	86%	0.15	186	89%	0.11	86%	0.15			
EVE-Limitations	391	2.27	0.69	2.30	0.69	199	2.22	0.70	2.30	0.71	179	2.33	0.68	2.31	0.65			
EVE-Benefits	391	4.35	0.81	4.27	0.88	199	4.32	0.87	4.27	0.90	179	4.39	0.72	4.25	0.84			
Intrinsic Motivation	375	3.15	0.83	3.24	0.80	199	3.08	0.86	3.21	0.79	172	3.24	0.78	3.26	0.81			
Extrinsic Motivation	375	2.96	0.73	2.83	0.75	197	2.98	0.75	2.88	0.75	172	2.93	0.70	2.80	0.73			
Educational Aspirations	374	4.23	0.92	4.25	0.86	195	4.38	0.88	4.39	0.79	170	4.05	0.93	4.06	0.93			
Educational Expectations	359	3.59	1.08	3.68	0.99	185	3.70	1.08	3.82	0.95	165	3.48	1.08	3.48	1.00			

Table 2.

Correlations among predictor and criterion variables for whole sample.

	1	2	3	4	5	6	7	8	9	10	11
1. Perceived Racial Discrimination T1	-										
2. Ethnic Identity T1	.020	-									
3. Coping Efficacy T1	-.146**	.360**	-								
4. GPA T2	-.074	.125*	.168**	-							
5. Attendance T2	-.113*	.119*	.169**	.704**	-						
6. Economic Value of Education-Limitations T2	.207**	-.177**	-.199**	-.175**	-.103*	-					
7. Economic Value of Education-Benefits T2	-.112*	.223**	.138*	.260**	.134**	-.551**	-				
8. Intrinsic Motivation T2	.010	.238**	.276**	.354**	.154**	-.278**	.249**	-			
9. Extrinsic Motivation T2	-.004	.020	-.091	-.054	-.026	.085	-.008	-.183**	-		
10. Educational Aspirations T2	-.010	.153**	.182**	.307**	.195**	-.188**	.123*	.330**	-.149**	-	
11. Educational Expectations T2	-.051	.176**	.164**	.375**	.242**	-.178**	.132*	.370**	-.112*	.618**	-

Descriptive findings for all participants.

In general, participants perceived very low levels of racial discrimination, as shown in Table 1. Participants reported moderately strong ethnic identities, and when asked about coping efficacy, participants felt like they handled their problems “pretty good.” Participants reported GPAs that fell between a “B” and a “C” average. In general, participants had high attendance rates. Participants tended to perceive higher economic benefits of an education and lower economic limitations of an education, and they reported moderate levels of both intrinsic and extrinsic academic motivation. Finally, participants aspired to earn between a four-year college degree and a professional/graduate degree, but they expected to earn between a two-year college/technical school degree and a four-year college degree.

As shown in Table 2, Pearson’s bivariate correlation analyses were conducted to assess the relationships among the predictor and the criterion variables. Perceived racial discrimination was significantly positively associated with the economic limitations of education and significantly negatively associated with coping efficacy, attendance, and the economic benefits of education. Ethnic identity was significantly positively associated with coping efficacy, GPA, attendance, the economic benefits of education, intrinsic motivation, educational aspirations, and educational expectations. Ethnic identity was also significantly negatively correlated with the economic limitations of education. Coping efficacy was significantly positively associated with GPA, attendance, the economic benefits of education, intrinsic motivation, educational aspirations, and

educational expectations. There was a significant inverse relationship between coping efficacy and the economic limitations of education.

Primary Analyses

In order to conduct structural equation modeling and test the proposed hypotheses, parceling was first conducted, and then Bollen's (1989) two-step approach was used. When testing a structural equation model using Bollen's (1989) two-step approach, a measurement model is conducted first, and then the structural model is tested after.

Parceling data.

Several variables in the present study contained more than 10 items. In order to construct a more parsimonious model, parceling was used to reduce the number of indicators for each latent construct (Little, Cunningham, Shahar, & Widaman, 2002). Parcels were created for the following variables: perceived racial discrimination (five parcels), ethnic identity (four parcels), coping efficacy (four parcels), the economic limitations of education (four parcels), the economic benefits of education (four parcels), intrinsic motivation (five parcels), and extrinsic motivation (five parcels). As recommended by Little et al. (2002), parceling decisions were made using confirmatory factor analysis. A confirmatory factor analysis was conducted for each of the variables that required parcels, and the results suggested groups of items whose errors correlated with one another. For example, the intrinsic academic motivation scale consisted of 17 items, and a confirmatory factor analysis suggested five groups of items whose errors

correlated with one another. Those five groups of items represented the five parcels that were used in the primary analyses.

Confirmatory factor analyses: Measurement models.

Before the structural regression models were analyzed, confirmatory factor analyses were conducted to test the measurement part of the model. Four models were analyzed to test each of the five hypotheses resulting in a total of 20 confirmatory factor analyses.

In order to assess model fit, several model fit indices were consulted. Adequately fitting models have a non-significant Chi-Square statistic (X^2) value, a Comparative Fit Index (CFI) value greater than .90 (Hu & Bentler, 1999), a Tucker Lewis Index (TLI) value greater than .95 (Hu & Bentler, 1999), a Root Mean Square Error of Approximation (RMSEA) value less than or equal to .08, and a Standardized Root Mean Square Residual index (SRMR) value less than .08. The confirmatory factor analyses yielded adequate fit for all models, demonstrated by the model fit information presented in Figures 2-4, 9-11, and 17-19. Model fit information is only presented for models in which main effects were tested. It is not possible to obtain model fit statistics for structural equation models that contain latent variable interaction terms (Mplus Discussion Board, Statmodel.com, 2005).

Structural models.

The structural portion of the models includes the direct linear influences of each variable on the other variables and includes the influence of each variable on its indicators (MacCallum, 1995). Each latent variable was given a scale by

setting the directional path between a latent variable and one of its indicators to one. In order to address statistical dependence issues among the Time 1 and Time 2 academic outcome variables, academic outcomes at Time 1 were controlled for in the structural model. Latent variable interaction terms were created using the XWITH interaction option in Mplus. This approach is recommended when testing models that include latent interaction terms that are created with two continuous latent variables (Muthén & Muthén, 2012). Plots were created for models in which a latent variable interaction term significantly predicted an outcome. These plots were created with Interaction! software (Soper, 2013). The results of the structural regression analyses are presented below, disaggregated by hypothesis.

The roles of racial discrimination, ethnic identity, and coping efficacy in academic outcomes among entire study sample.

The results below are from analyses conducted with the entire sample.

Hypothesis 1.i. The first hypothesis was that higher reports of perceived racial discrimination in 9th-grade would be associated with poorer academic outcomes in 10th-grade, as measured by GPA, attendance, academic motivation, educational aspirations, educational expectations, and economic value of education, while controlling for 9th-grade academic outcomes (see Figure 2).

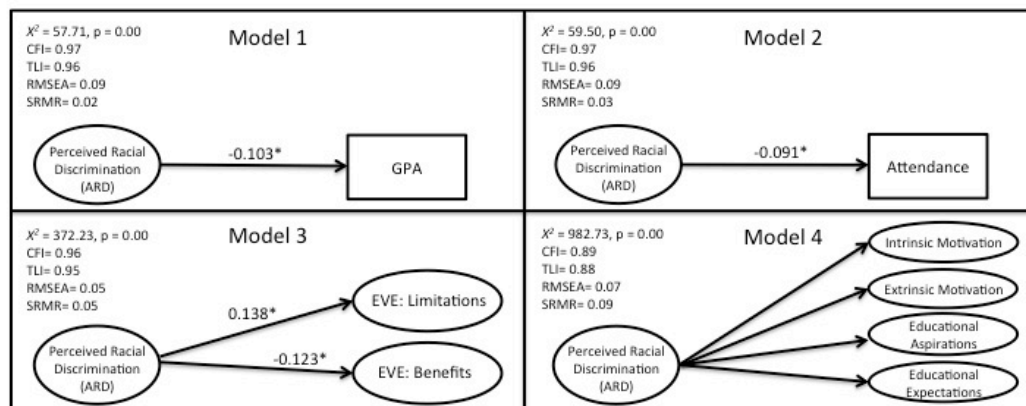


Figure 2. Models tested in hypothesis I.i for all participants.

All models tested in hypothesis I.i yielded adequate model fit. Hypothesis I.i was partially supported because models 1, 2, and 3 yielded significant results. More perceived racial discrimination in 9th-grade significantly predicted lower GPA, attendance, and economic benefits of education in 10th-grade. More perceived racial discrimination in 9th-grade significantly predicted more economic limitations of education in 10th-grade. Perceived racial discrimination did not significantly predict motivation or educational aspirations and expectations.

Hypothesis I.ii. It was predicted that stronger ethnic identity in 9th-grade would be associated with better academic outcomes in 10th-grade, as measured by GPA, attendance, academic motivation, educational aspirations, educational expectations, and economic value of education, while controlling for 9th-grade academic outcomes (see Figure 3).

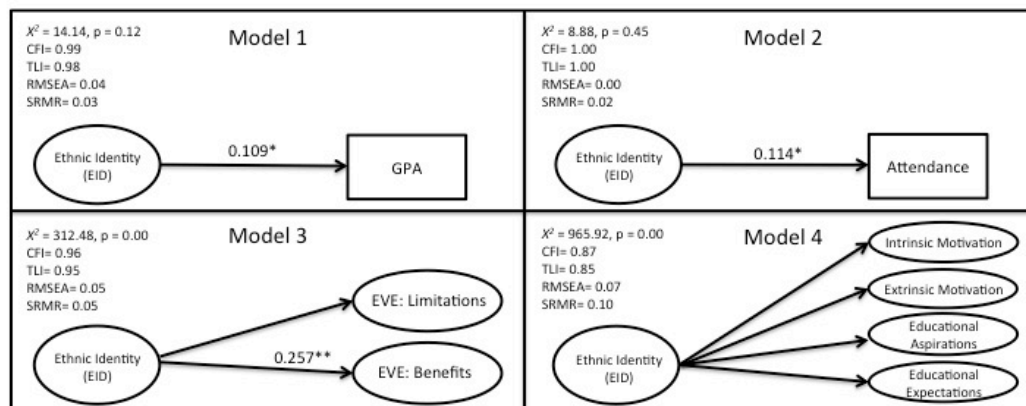


Figure 3. Models tested in hypothesis I.ii for all participants.

All models tested in hypothesis I.ii yielded adequate model fit. Hypothesis I.ii was partially supported because models 1, 2, and 3 yielded significant results. More ethnic identity in 9th-grade significantly predicted higher GPA, attendance, and economic benefits of education in 10th-grade. Ethnic identity did not significantly predict economic limitations of education, motivation, or educational aspirations and expectations.

Hypothesis I.iii. It was expected that higher coping efficacy in 9th-grade would be associated with better academic outcomes in 10th-grade, as measured by GPA, attendance, academic motivation, educational aspirations, educational expectations, and economic value of education, while controlling for 9th-grade academic outcomes (see Figure 4).

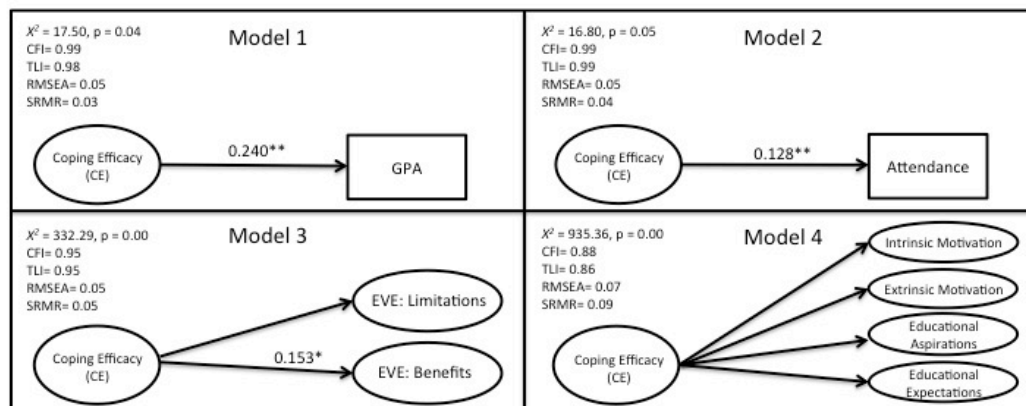


Figure 4. Models tested in hypothesis I.iii for all participants.

All models tested in hypothesis I.iii yielded adequate model fit. Hypothesis I.iii was partially supported because models 1, 2, and 3 yielded significant results. More coping efficacy in 9th-grade significantly predicted higher GPA, attendance, and economic benefits of education in 10th-grade. Coping efficacy did not significantly predict economic limitations of education, motivation, or educational aspirations and expectations.

Hypothesis I.iv. It was expected that ethnic identity in 9th-grade would moderate the relationship between perceived discrimination in 9th-grade and academic outcomes in 10th-grade, such that ethnic identity would reduce the negative effect of perceived discrimination on academic outcomes, while controlling for 9th-grade academic outcomes (see Figure 5).

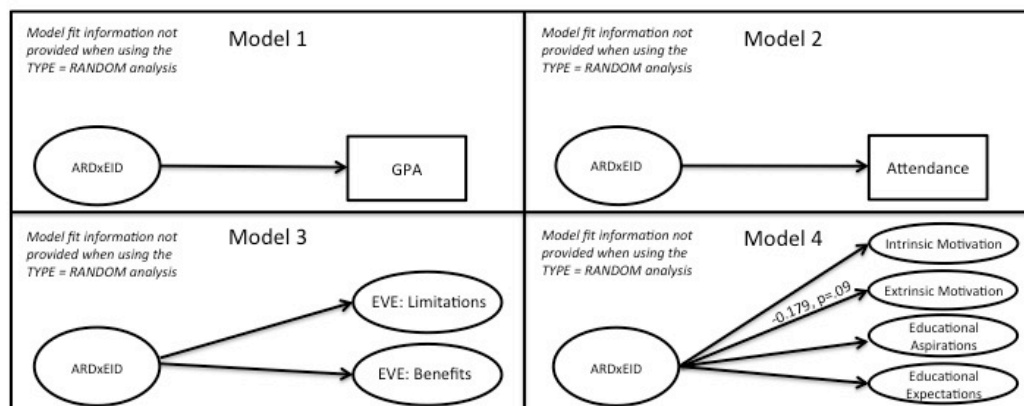


Figure 5. Models tested in hypothesis I.iv for all participants.

Hypothesis I.iv was not supported; however, there was one relationship in model 4 that was trending toward significance. There was an interaction effect for extrinsic motivation, suggesting that ethnic identity moderated the relationship between perceived racial discrimination and extrinsic motivation (see Figure 6). For participants with higher ethnic identities in 9th-grade, more racial discrimination in 9th-grade predicted less extrinsic motivation in 10th-grade, whereas for participants with lower ethnic identities in 9th-grade, more racial discrimination in 9th-grade predicted more extrinsic motivation in 10th-grade. This finding supports hypothesis I.iv because extrinsic motivation has been associated with academic disengagement among adolescents (Lepper et al., 2005), and participants with stronger ethnic identities had lower levels of extrinsic motivation. Therefore, ethnic identity served as a buffer against the negative effects of perceived racial discrimination on extrinsic motivation.

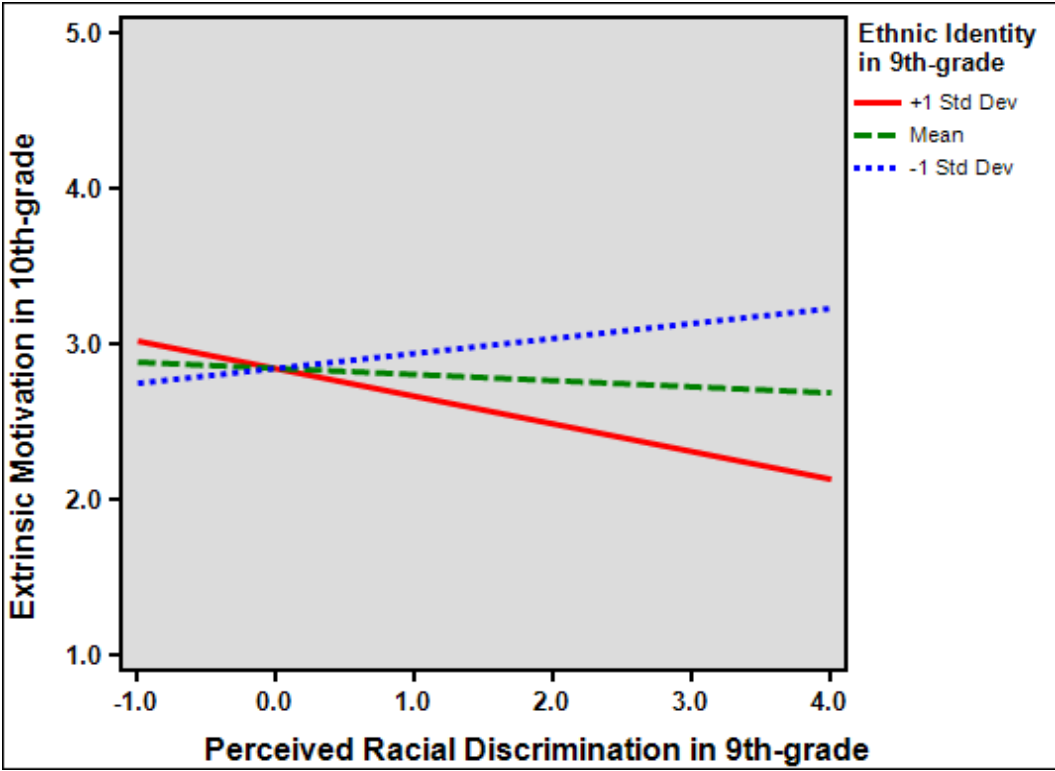


Figure 6. Ethnic identity as a moderator of perceived racial discrimination and extrinsic motivation for all participants.

Hypothesis I.v. It was expected that coping efficacy in 9th-grade would moderate the relationship between perceived discrimination in 9th-grade and academic outcomes in 10th-grade, such that higher coping efficacy would reduce the negative effect of perceived discrimination on academic outcomes, while controlling for 9th-grade academic outcomes (see Figure 7).

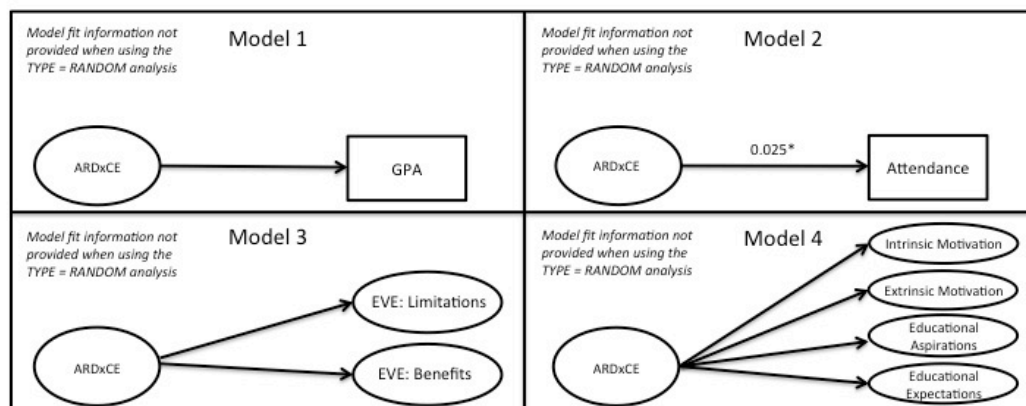


Figure 7. Models tested in hypothesis I.v for all participants.

Hypothesis I.v was partially supported because model 2 yielded a significant result. There was a significant interaction effect for attendance, suggesting that coping efficacy moderated the relationship between perceived racial discrimination and attendance (see Figure 8). For participants with higher coping efficacy in 9th-grade, more perceived racial discrimination in 9th-grade significantly predicted better attendance in 10th-grade, whereas for participants with lower coping efficacy in 9th-grade, more perceived racial discrimination in 9th-grade significantly predicted worse attendance in 10th-grade.

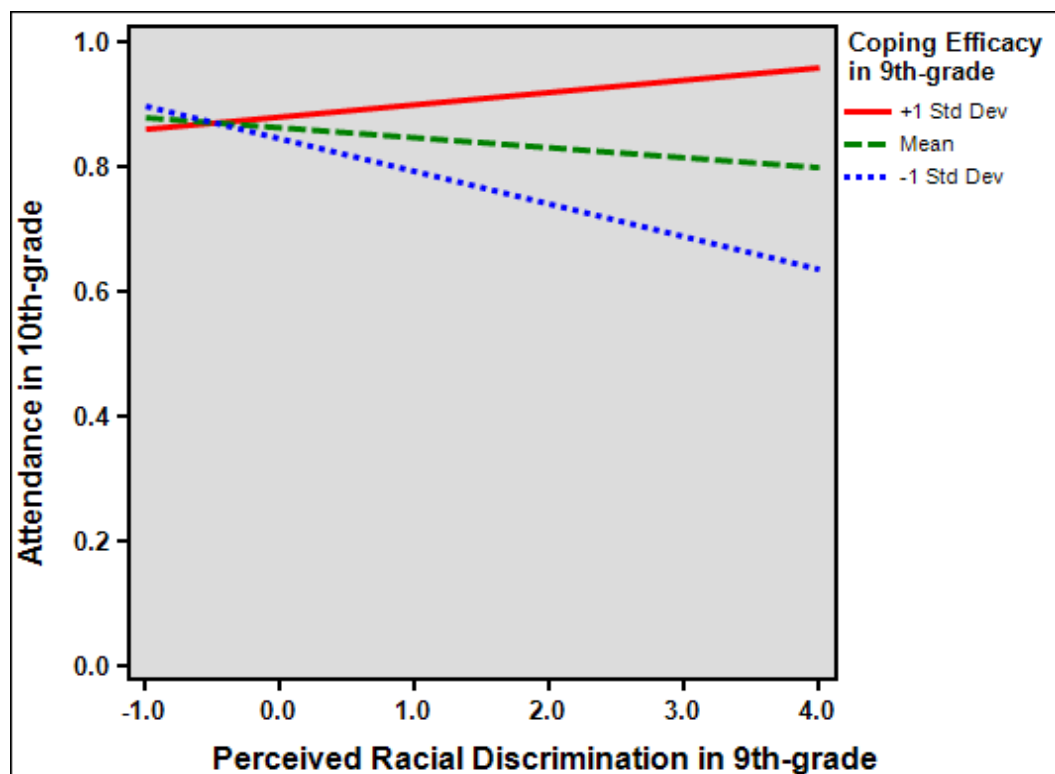


Figure 8. Coping efficacy as a moderator of perceived racial discrimination and attendance for all participants.

The roles of racial discrimination, ethnic identity, and coping efficacy in academic outcomes among female participants.

The role of gender was tested by examining the hypotheses proposed in this study with only female participants and with only male participants. It was expected that the hypotheses would be significant for male participants, but not for female participants. This hypothesis was not fully supported because there were several significant findings for both female and male participants. These gender specific findings are discussed in greater detail below.

Hypothesis 1.i. All models tested in hypothesis 1.i yielded adequate model fit (see Figure 9). Hypothesis 1.i was partially supported because model 4 yielded a significant result, and models 1 and 4 revealed results that were trending toward

significance. More perceived discrimination in 9th-grade significantly predicted more intrinsic motivation in 10th-grade. More perceived discrimination in 9th-grade predicted lower GPA and educational aspirations in 10th-grade, and these two findings were trending toward significance. Perceived racial discrimination did not significantly predict attendance, benefits or limitations of education, extrinsic motivation, or educational expectations for female participants.

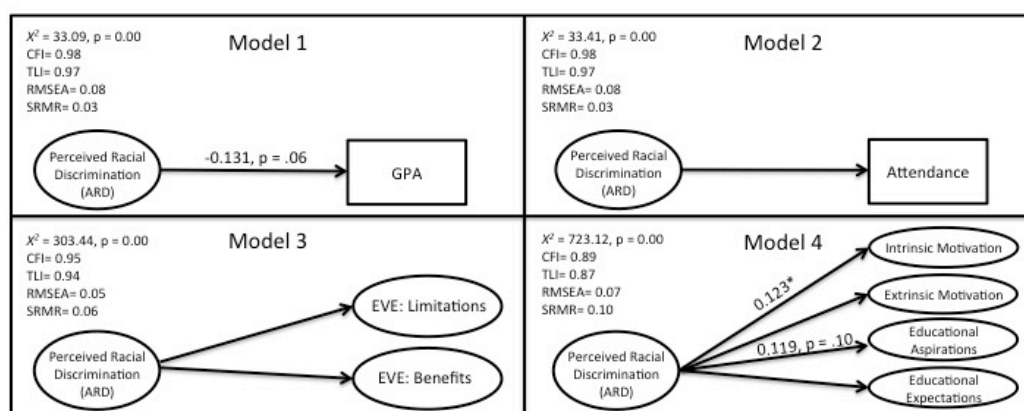


Figure 9. Models tested in hypothesis I.i with only female participants.

Hypothesis I.ii. All models tested in hypothesis I.ii yielded adequate model fit (see Figure 10). Hypothesis I.ii was partially supported because models 1 and 3 yielded significant results. More ethnic identity in 9th-grade significantly predicted higher GPA and economic benefits of education in 10th-grade. Ethnic identity did not significantly predict attendance, economic limitations of education, motivation, or educational aspirations or expectations for female participants.

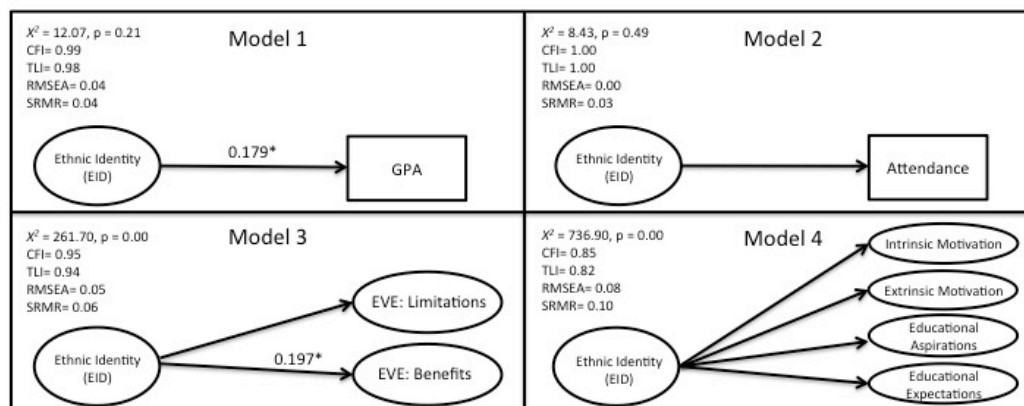


Figure 10. Models tested in hypothesis I.ii with only female participants.

Hypothesis I.iii. All models tested in hypothesis I.iii yielded adequate model fit (see Figure 11). Hypothesis I.iii was partially supported because models 1 and 4 yielded significant results. More coping efficacy in 9th-grade significantly predicted higher GPA and educational aspirations in 10th-grade. Coping efficacy did not significantly predict attendance, economic benefits or limitations of education, motivation, or educational expectations for female participants.

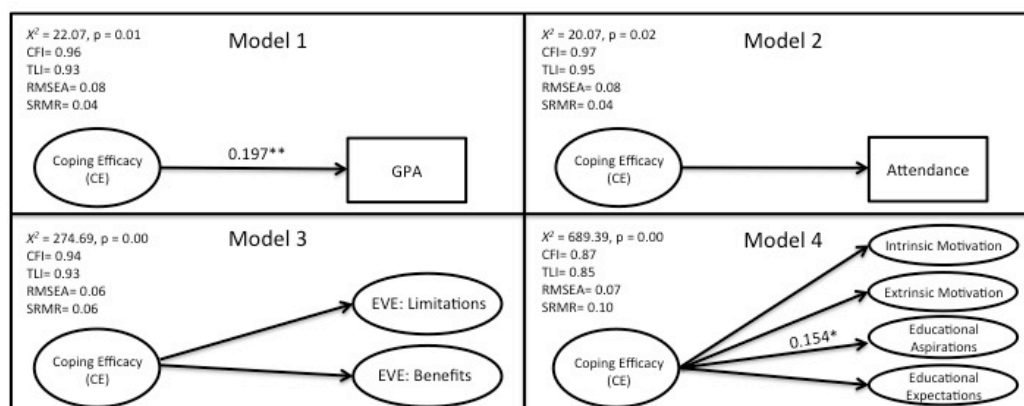


Figure 11. Models tested in hypothesis I.iii with only female participants.

Hypothesis I.iv. Hypothesis I.iv was not supported; however, there was one relationship in model 4 that was trending toward significance (see Figure 12). There was an interaction effect for extrinsic motivation, suggesting that ethnic

identity moderated the relationship between perceived racial discrimination and extrinsic motivation. For female participants with higher ethnic identities in 9th-grade, more racial discrimination in 9th-grade predicted less extrinsic motivation in 10th-grade, whereas for female participants with lower ethnic identities in 9th-grade, more racial discrimination in 9th-grade predicted more extrinsic motivation in 10th-grade. Extrinsic motivation has been associated with academic disengagement among adolescents (Lepper et al., 2005), and female participants with stronger ethnic identities had lower levels of extrinsic motivation. Therefore, ethnic identity served as a buffer against the negative effects of perceived racial discrimination on extrinsic motivation for female participants.

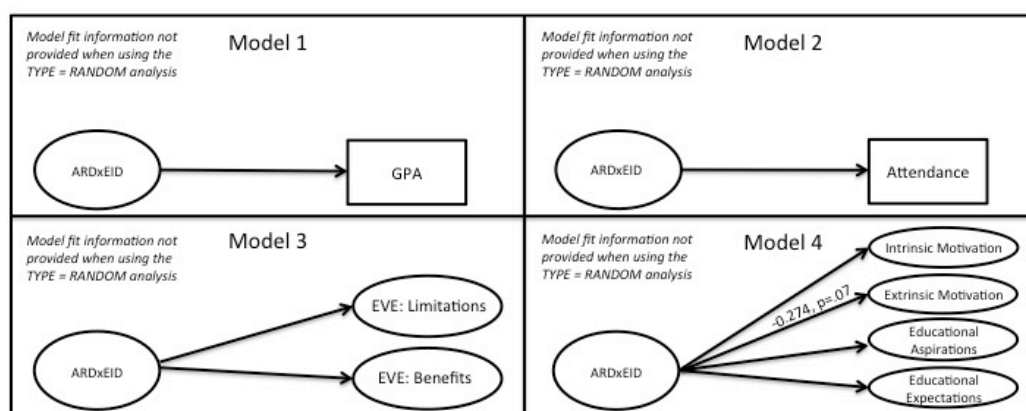


Figure 12. Models tested in hypothesis I.iv with only female participants.

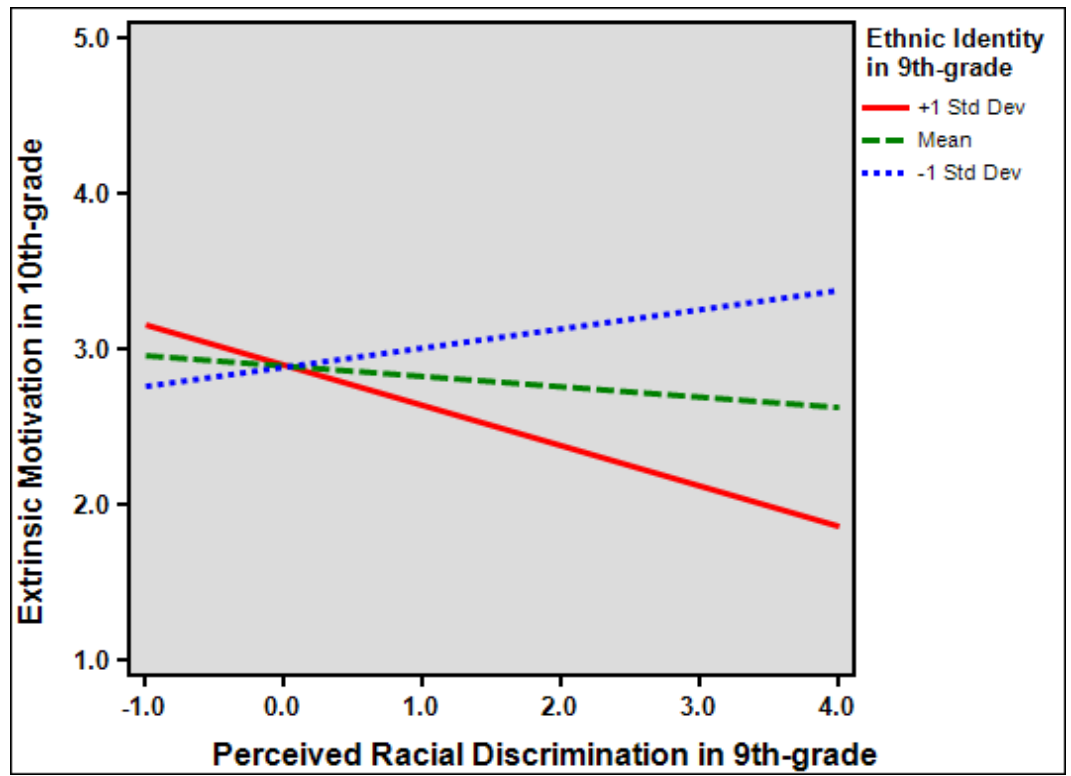


Figure 13. Ethnic identity as a moderator of perceived racial discrimination and extrinsic motivation with only female participants.

Hypothesis I.v. Hypothesis I.v was partially supported because models 1 and 2 yielded significant results (see Figure 14).

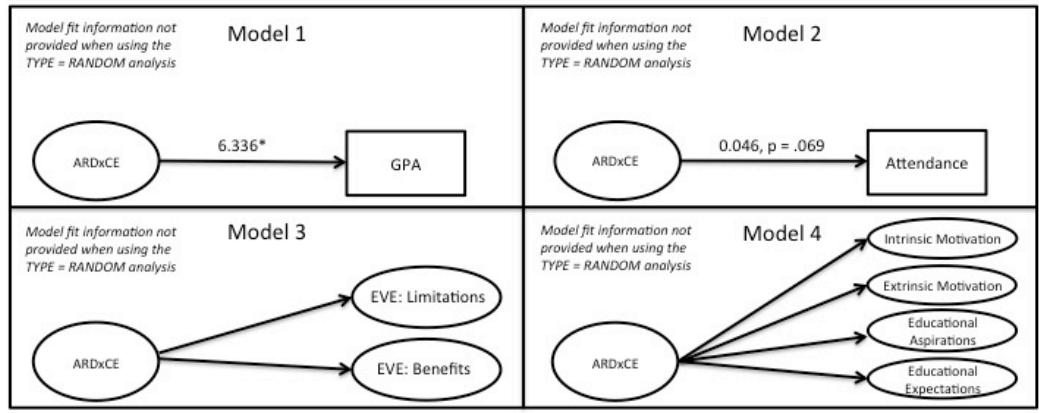


Figure 14. Models tested in hypothesis I.v with only female participants.

There was a significant interaction effect for GPA, suggesting that coping efficacy moderated the relationship between perceived racial discrimination and GPA (see Figure 15). For participants with higher coping efficacy in 9th-grade, more perceived racial discrimination in 9th-grade significantly predicted higher GPA in 10th-grade, whereas for participants with lower coping efficacy in 9th-grade, more perceived racial discrimination in 9th-grade significantly predicted lower GPA in 10th-grade.

There was also an interaction effect for attendance that was trending toward significance, suggesting that coping efficacy moderated the relationship between perceived racial discrimination and attendance (see Figure 16). For participants with higher coping efficacy in 9th-grade, more perceived racial discrimination in 9th-grade predicted better attendance in 10th-grade, whereas for participants with lower coping efficacy in 9th-grade, more perceived racial discrimination in 9th-grade predicted worse attendance in 10th-grade.

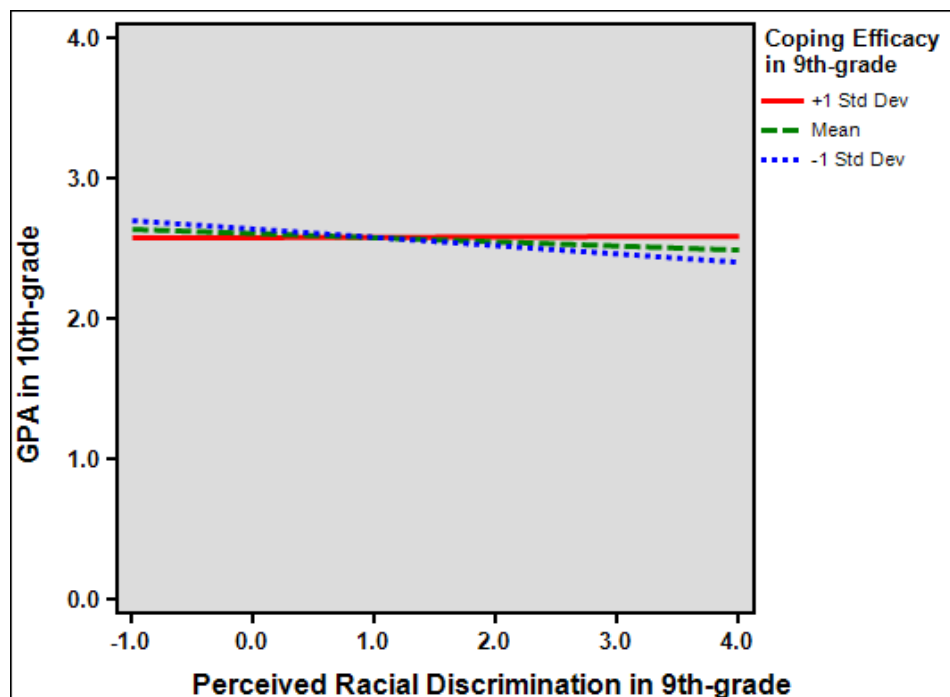


Figure 15. Coping efficacy as a moderator of perceived racial discrimination and GPA with only female participants.

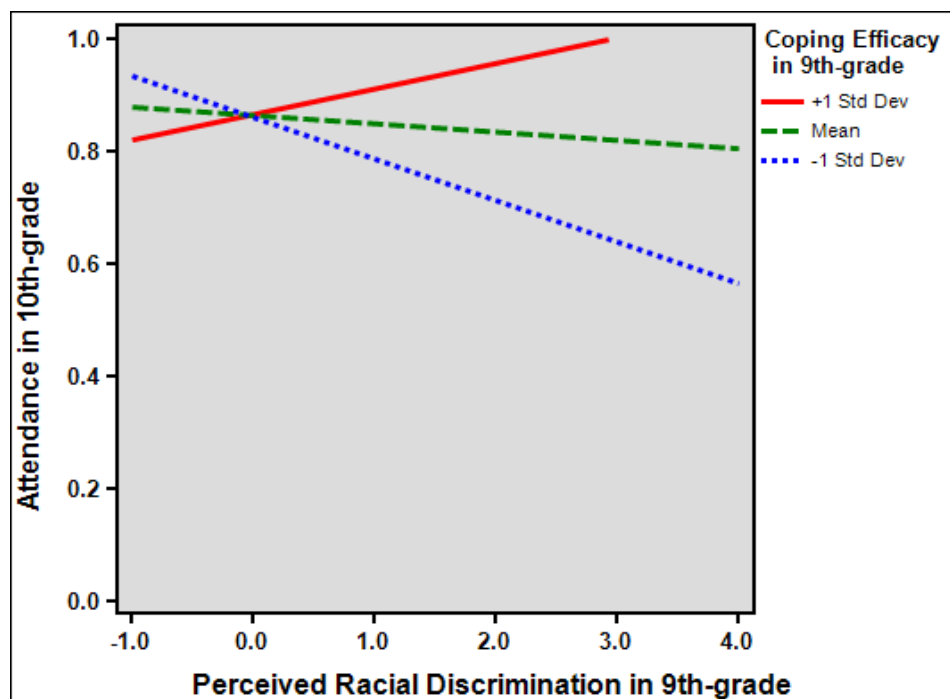


Figure 16. Coping efficacy as a moderator of perceived racial discrimination and attendance with only female participants.

The roles of racial discrimination, ethnic identity, and coping efficacy in academic outcomes among male participants.

It was expected that the hypotheses would be significant for male participants, but not for female participants. The results below provide partial support for this hypothesis, and they are described in more detail below.

Hypothesis I.i. All models tested in hypothesis I.i yielded adequate model fit (see Figure 17). Hypothesis I.i was partially supported because models 2 and 3 yielded significant results. More perceived racial discrimination in 9th-grade significantly predicted lower attendance and economic benefits of education in 10th-grade. More perceived racial discrimination in 9th-grade also significantly predicted more economic limitations of education in 10th-grade. Perceived racial discrimination did not significantly predict GPA, motivation, or educational aspirations or expectations for male participants.

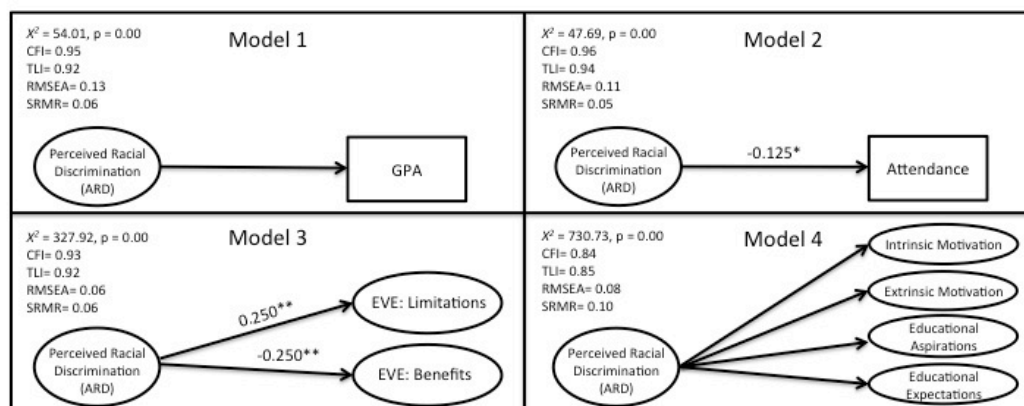


Figure 17. Models tested in hypothesis I.i with only male participants.

Hypothesis I.ii. All models tested in hypothesis I.ii yielded adequate model fit (see Figure 18). Hypothesis I.ii was partially supported because models 2, 3, and 4 yielded significant results. More ethnic identity in 9th-grade significantly

predicted higher attendance, economic benefits of education, and intrinsic motivation in 10th-grade. More ethnic identity in 9th-grade also predicted fewer economic limitations of education in 10th-grade, and this relationship was trending toward significance. Ethnic identity did not significantly predict GPA, extrinsic motivation, or educational aspirations or expectations for male participants.

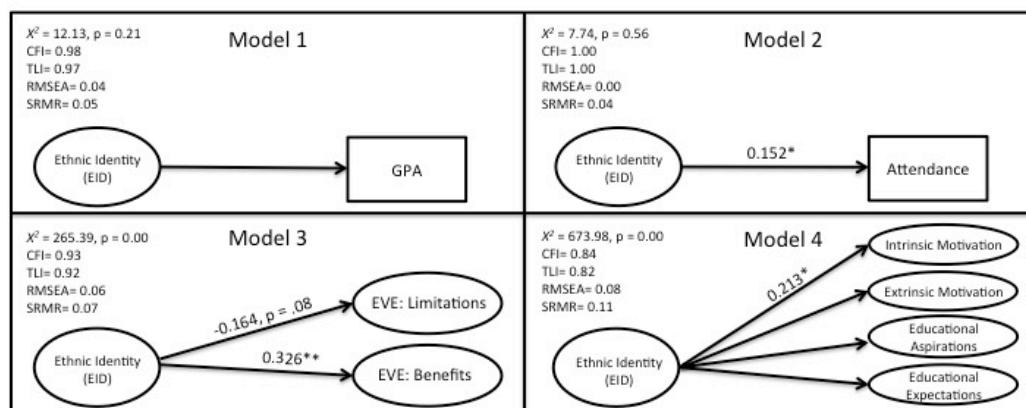


Figure 18. Models tested in hypothesis I.ii with only male participants.

Hypothesis I.iii. All models tested in hypothesis I.iii yielded adequate model fit (see Figure 19). Hypothesis I.iii was partially supported because models 1, 2, and 3 yielded significant results. More coping efficacy in 9th-grade significantly predicted higher GPA, attendance, and economic benefits of education in 10th-grade. Coping efficacy did not significantly predict economic limitations of education, motivation, or educational aspirations or expectations for male participants.

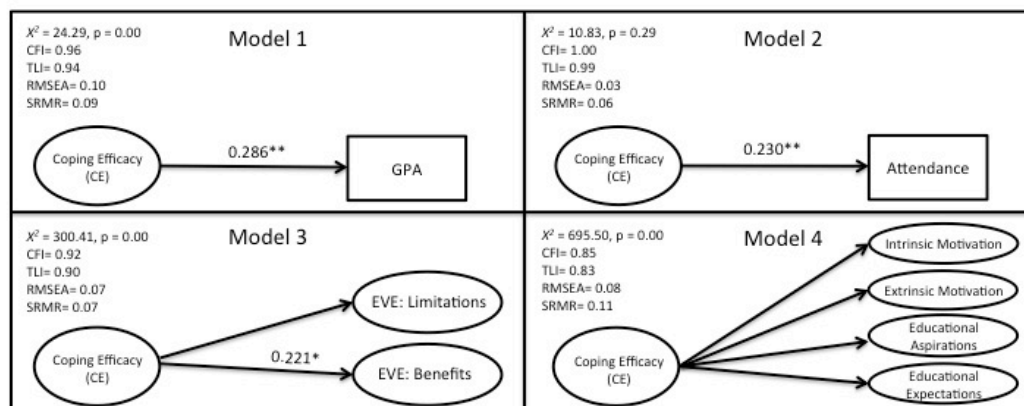


Figure 19. Models tested in hypothesis I.iii with only male participants.

Hypothesis I.iv. Hypothesis I.iv was not supported (see Figure 20). Ethnic identity did not significantly moderate any relationships between perceived racial discrimination in 9th-grade and academic outcomes in 10th-grade for male participants.

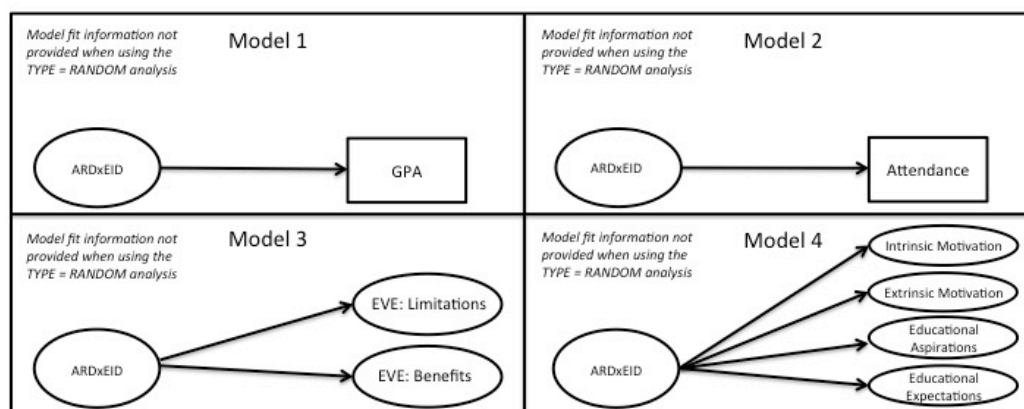


Figure 20. Models tested in hypothesis I.iv with only male participants.

Hypothesis I.v. Hypothesis I.v was not supported (see Figure 21). Coping efficacy did not significantly moderate any relationships between perceived racial discrimination in 9th-grade and academic outcomes in 10th-grade for male participants.

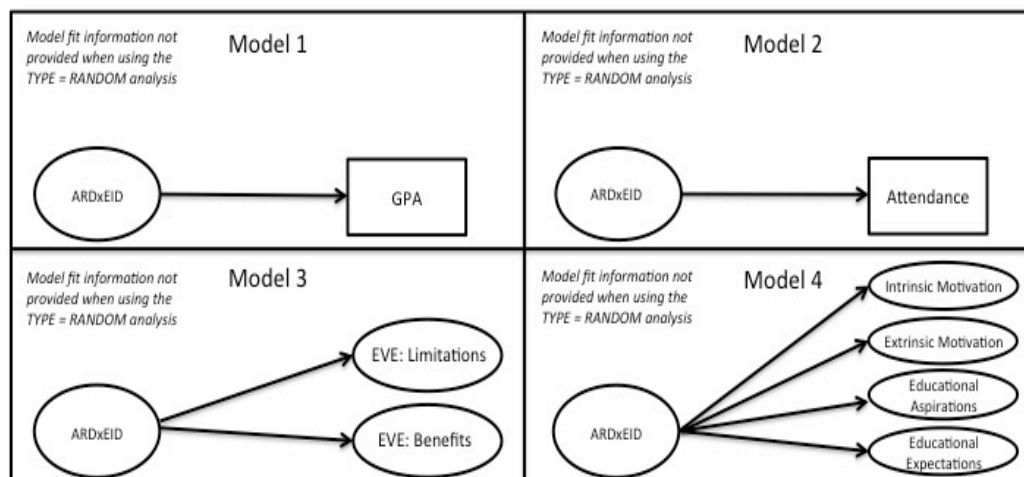


Figure 21. Models tested in hypothesis I.v with only male participants.

Discussion

The purpose of the current study was to examine the relationships among perceived racial discrimination, ethnic identity, coping efficacy, and academic outcomes among urban, low-income Latina/o youth. Guided by a resilience framework (Fergus & Zimmerman, 2005), the current study tested whether ethnic identity and/or coping efficacy moderated the relationships between perceived racial discrimination and academic outcomes over urban, low-income Latina/o adolescents' first two years of high school. One of the limitations of the literature on resilience theory is that few studies examine risk and resilience among Latina/os. Another limitation of the resilience literature is that many studies focus on psychosocial outcomes rather than academic outcomes (Umaña-Taylor et al., 2012). The present study addressed both of these limitations by analyzing ethnic identity and coping efficacy as protective factors that contributed to positive academic outcomes among urban, low-income Latina/o youth. The results of the present study provided some support for the protective model of resilience. The

protective model of resilience exists if the relationship between a risk factor and an outcome is moderated by an asset or resource. In this study, both ethnic identity and coping efficacy, which are assets, moderated the relationships between perceived racial discrimination and some of the academic outcomes. The results of the study are discussed in greater detail below.

The Role of Racial Discrimination in Academic Outcomes

The present study provided partial support for the hypothesis that higher perceived discrimination in 9th-grade would predict poorer academic outcomes in 10th-grade for both female and male participants. For all participants, higher perceived racial discrimination in 9th-grade predicted lower GPA, attendance, and perceived benefits of education, and higher perceived limitations of education in 10th-grade. For female participants, higher perceived racial discrimination in 9th-grade predicted lower GPA in 10th-grade, and unexpectedly, higher intrinsic motivation and educational aspirations in 10th-grade. For male participants, higher perceived racial discrimination in 9th-grade predicted lower attendance and perceived benefits of education, and higher perceived limitations of education. These results were mostly expected because they corroborated findings from previous research that suggest racial discrimination is associated with poorer academic outcomes (Alfaro et al., 2009; DeGarmo & Martinez, 2006; Martinez et al., 2004; Umaña-Taylor et al., 2012).

As stated previously, there were two unexpected findings. For female participants, higher perceived racial discrimination in 9th-grade predicted higher intrinsic motivation and educational aspirations in 10th-grade. These findings were

contrary to hypothesis I.v, which posited that racial discrimination would significantly affect male participants, but not female participants. The results of this study suggested that female participants are just as susceptible to the effects of racial discrimination as male participants. In some of the previous research on Latina/o adolescents, the relationships between racial discrimination and academic outcomes have been non-significant for female participants (Alfaro et al., 2009; Umaña-Taylor et al., 2012), but none of the studies reviewed for the present study have found positive relationships between discrimination and academic outcomes for Latina adolescents. These unexpected results found in the present study may suggest that racial discrimination might motivate Latina adolescents to succeed academically in some instances.

Resistance theory (Camarota, 2004) can help explain why Latina youth may find racial discrimination motivating. Educational ethnographers have documented how low SES, ethnic minority females use academic success to resist gender oppression, and an academic degree may help Latinas resist social and cultural processes that perpetuate their subordination (Camarota, 2004). Also, in an ethnography conducted by Fine and Weis (1998), the researchers found that Latinas were the most optimistic about the prospect of education as a path to significant life changes, compared to White and African American women. Perhaps the racial discrimination experiences of Latina adolescents in this study led them to feel more intrinsically motivated and desired a higher level of educational attainment in order to overcome racial oppression.

Another possible explanation may be that these Latina adolescents are seeking out support, or other resources, in response to the racial discrimination that they experience. These resources may be mediators of the relationship between racial discrimination and academic outcomes, and they could be contributing to the positive outcomes found in this study.

The Role of Ethnic Identity in Academic Outcomes

The results of this study suggested that for all participants, higher ethnic identity in 9th-grade predicted higher GPA, attendance, and perceived benefits of an education in 10th-grade. Similar results were found for female participants with higher ethnic identity in 9th-grade predicting higher GPA and perceived benefits of an education in 10th-grade. For male participants, higher ethnic identity in 9th-grade predicted higher attendance, perceived benefits of an education, and intrinsic motivation, and lower perceived limitations of an education. These results were similar to results reported in previous literature that support the idea that a positive ethnic identity is related to more positive academic outcomes (Altschul et al., 2006; Chang & Le, 2010; Eccles et al., 2006; Ong et al., 2006; Supple et al., 2006; Umaña-Taylor et al., 2012).

Identity formation is the central developmental task of adolescence, and ethnic identity formation is an important part of one's identity development (Phinney, 1993). Ethnic identity is an important component of a person's self-concept, and it helps people to better understand their membership in various social groups, as well as the value and emotional significance that they attach to that membership (Phinney, 1992). In terms of resilience theory (Fergus &

Zimmerman, 2005), ethnic identity is an asset that can serve as a protective factor by buffering the negative consequences of discrimination on certain academic outcomes (French & Chavez, 2010; Greene et al., 2006).

In the present study, ethnic identity moderated the relationship between perceived racial discrimination in 9th-grade and extrinsic motivation in 10th-grade for all participants and for female participants, but not for male participants. It is important to note that these relationships were trending toward significance, as they were significant at the .10 alpha level. For participants with higher ethnic identities in 9th-grade, more racial discrimination in 9th-grade predicted less extrinsic motivation in 10th-grade, whereas for participants with lower ethnic identities in 9th-grade, more racial discrimination in 9th-grade predicted more extrinsic motivation in 10th-grade.

This is a positive finding because previous research has suggested that for younger students (i.e. elementary and middle school-aged youth), an emphasis on performance goals (which have strong extrinsic components) is associated with decreased cognitive engagement (Lepper et al., 2005). For example, if younger students focus heavily on performance goals like test scores they may focus on ability rather than effort, and they may avoid challenging work (Lepper et al., 2005). Because the sample in the present study was relatively young (i.e. high school freshmen and sophomores) higher extrinsic motivation may be detrimental to their academic success. Therefore, ethnic identity served as a protective factor in the relationship between perceived racial discrimination and extrinsic motivation.

As noted earlier, ethnic identity did not moderate the relationship between perceived discrimination and extrinsic motivation for male participants. One possible factor that may have contributed to this non-significant finding is gender socialization practices frequently identified in Latina/o cultures. Research has suggested that Latino male and Latina female adolescents experience different gender socialization practices, and Latino boys are generally freer than Latina girls to explore and define themselves in extrafamilial contexts (Raffaelli & Ontai, 2004). Perhaps because Latino boys are encouraged to explore and define their identities in a public context (i.e. school), they may be more affected by experiences of racial discrimination, and ethnic identity may not be a strong enough buffer to reduce or eliminate the harmful effects of racial discrimination. Umaña-Taylor et al. (2012) unexpectedly found that higher ethnic identity among middle school aged Latino males predicted lower GPAs one year later. The authors suggested that because the participants were in the early stages of adolescence, they may have still been in the process of exploring the role of ethnic identity in their lives, and they may not have yet been able to reap the protective benefits of a strong, well-developed ethnic identity. The male participants in this sample were only slightly older than the participants in the Umaña-Taylor et al. (2012) study, and it is plausible that the same phenomenon was occurring.

The Role of Coping Efficacy in Academic Outcomes

In the present study, higher coping efficacy in 9th-grade significantly predicted higher GPA, attendance, and perceived benefits of education for all

participants and for male participants. For female participants, higher coping efficacy in 9th-grade significantly predicted higher GPA and educational aspirations. These findings provided support for the hypothesis that higher coping efficacy in 9th-grade would predict higher academic outcomes in 10th-grade. Although there were non-significant results for some of the academic outcomes, there were no unexpected findings. The literature on coping efficacy and academic outcomes is very limited, and most of the published studies on coping efficacy focus on psychological outcomes, such as depressive symptoms (Prelow et al., 2007) and psychological distress (Manne & Glassman, 2000). In the present study, participants were asked to think about coping efficacy in terms of dealing with race-related stressors. Therefore, findings from the present study support the general idea that higher coping efficacy, or a stronger belief in one's abilities to deal effectively with the race-related stressors, leads to positive academic outcomes.

The present study was one of the first to explore the relationships among coping efficacy and academic outcomes, and the first study to examine coping efficacy as a moderator of the relationship between racial discrimination and academic outcomes. Results revealed that coping efficacy significantly moderated the relationship between racial discrimination and attendance for all participants and for female participants, and the relationship between racial discrimination and GPA for female participants. For all participants and for female participants with higher coping efficacy in 9th-grade, more perceived racial discrimination in 9th-grade significantly predicted better attendance in 10th-grade, whereas for

participants with lower coping efficacy in 9th-grade, more perceived racial discrimination in 9th-grade significantly predicted worse attendance in 10th-grade.

When analyzing GPA among female participants, results suggested that for participants with higher coping efficacy in 9th-grade, more perceived racial discrimination in 9th-grade predicted better attendance in 10th-grade, whereas for participants with lower coping efficacy in 9th-grade, more perceived racial discrimination in 9th-grade predicted worse attendance in 10th-grade. Taken together, these results suggest that coping efficacy effectively buffered the negative effects of racial discrimination on attendance for all participants, and on GPA for female participants.

It was hypothesized that coping efficacy would significantly moderate the relationship between racial discrimination and academic outcomes for male participants, and this hypothesis was not supported. Coping efficacy did not moderate the relationships between racial discrimination and any of the academic outcomes for male participants. Again, it is possible that because many Latino boys are encouraged to take ownership of the outside world (Bámaca, Umaña-Taylor, Shin, & Alfaro, 2005; Raffaelli & Ontai, 2004), they may be more severely affected by experiences of racial discrimination and may see racial discrimination as a major barrier to academic success (Alfaro et al., 2009). Like ethnic identity, coping efficacy may not be a strong enough buffer to protect these young male participants from the harmful effects of racial discrimination.

Ethnic Identity and Coping Efficacy as Assets in Resilience Theory

The development of the present study was guided by resilience theory (Fergus & Zimmerman, 2005; Luthar, Cicchetti, & Becker, 2000), and hypotheses 1.iv and 1.v tested a protective model of resilience. A protective model of resilience occurs if an asset or a resource moderates the relationship between a risk factor and an outcome. An asset is a promotive factor that is found within an individual, such as ethnic identity or coping efficacy, and a resource is a promotive factor that resides outside an individual, such as a mentor. Both assets and resources help individuals to overcome adversity and achieve positive outcomes.

The findings in the present study suggest that both ethnic identity and coping efficacy moderated the relationships between racial discrimination and extrinsic motivation, attendance, and GPA for the whole study sample and for female participants. These findings provide support for the protective model of resilience. Both Fergus and Zimmerman (2005) and Luthar et al. (2000) describe two sub-models of the protective model of resilience: the protective-stabilizing model and the protective-reactive model. The protective-stabilizing model occurs when there is a significant relationship between a risk factor and an outcome in the absence of a promotive factor, but when introduced, the promotive factor “stabilizes” the relationship by preventing further declines in the outcome as risk increases (Luthar et al., 2000), or the promotive factor eliminates the relationship between the risk factor and the outcome (Fergus & Zimmerman, 2005). In the present study, a protective-stabilizing model would occur if the introduction of

ethnic identity and/or coping efficacy eliminated the once-significant relationships between perceived racial discrimination and academic outcomes.

The protective-reactive model of resilience functions similarly to the protective-stabilizing model, but instead of eliminating the relationship between a risk factor and an outcome, the protective-reactive model reduces the strength of the relationship. In the present study, a protective-reactive model would occur if either ethnic identity and/or coping efficacy reduced the strength of the associations between perceived racial discrimination and academic outcomes.

Luthar et al. (2000) proposed a third sub-model of protective resilience called the protective-enhancing model of resilience. In the protective-enhancing model, individuals' competence is augmented with increasing risk (Luthar et al., 2000). In the present study, a protective-enhancing model of resilience would occur if participants with higher ethnic identity and/or higher coping efficacy experienced better academic outcomes at higher levels of perceived racial discrimination than at lower levels of perceived racial discrimination.

Results from the present study did not support the protective-reactive model of resilience. However, four of the five significant interaction effects did support the protective-enhancing model, and one significant interaction effect supported the protective-stabilizing model. For the entire sample and for female participants only, ethnic identity in 9th-grade significantly moderated the relationship between perceived racial discrimination in 9th-grade and extrinsic academic motivation in 10th-grade. These findings supported a protective-enhancing model of resilience because participants with higher ethnic identity

experienced better academic outcomes (e.g. lower extrinsic motivation) at higher levels of perceived racial discrimination, while participants with lower ethnic identity experienced worse academic outcomes (e.g. higher extrinsic motivation) at higher levels of perceived racial discrimination.

Likewise, coping efficacy in 9th-grade significantly moderated the relationship between perceived racial discrimination in 9th-grade and attendance in 10th-grade for all participants and for female participants. These results also supported a protective-enhancing model of resilience because participants with higher coping efficacy had better attendance rates at higher levels of perceived racial discrimination, while participants with lower coping efficacy had worse attendance rates at higher levels of perceived discrimination.

The last significant interaction effect was only observed with female participants, and it supported a protective-stabilizing model of resilience. The 10th-grade attendance rates of female participants with higher coping efficacy in 9th-grade remained stable regardless of level of perceived racial discrimination in 9th-grade. This result supported the protective-stabilizing model of resilience because the protective factor (e.g. coping efficacy) prevented participants from declines in the outcome (e.g. attendance) as they experienced increasing risk (e.g. perceived racial discrimination).

Both Luthar et al. (2000) and Fergus and Zimmerman (2005) note that a limitation of resilience theory is the lack of common terminology to describe resilience. For example, some research on this topic is discussed in terms of “resiliency,” which implies that resilience is a trait or an adjective to describe a

person, and other research is discussed in terms of “resilience,” which emphasizes the context-specific nature of the theory. Luthar et al. (2000) explain that one way researchers can move toward a common terminology is by contextualizing resilience in their own research. Luthar et al. (2000) encourage researchers to use specific terms to describe their research, for example, “educational resilience” or “emotional resilience,” and by doing so, researchers can help inspire greater precision in the terminology used to describe resilience. Given these suggestions, it is important to note that the results of the present study supported both protective-enhancing and protective-stabilizing models of educational resilience, and it should not be assumed that the resilience demonstrated in this study would necessarily be extended to other domains.

Strengths, Limitations, and Future Directions

This study has multiple strengths that should be noted. The present study is the first to examine the relationships among perceived racial discrimination, ethnic identity, coping efficacy, and academic outcomes among urban, low-income Latina/o youth. Currently, the literature on coping efficacy is limited, and this study is one of very few studies that analyze coping efficacy in a Latina/o population. It is the only study to test coping efficacy as a moderator in the relationships between racial discrimination and academic outcomes.

Other notable strengths of this study include the objective and subjective assessments of academic outcomes, and the longitudinal design used in this study. In many studies that explore the academic achievement of youth, academic achievement is often assessed with only GPA, which is only one, more distal

component of academic achievement. Further, some researchers ask participants to self-report their GPAs. This is a less precise method for assessing GPA because participants may inflate their GPAs in order to seem more favorable in the eyes of the researcher (Gramzow, Elliot, Asher, & McGregor, 2003). In the present study, these challenges were avoided by obtaining participants' GPAs from official school records, and by assessing multiple dimensions of academic achievement. Both proximal (e.g. educational aspirations) and distal (e.g. GPA) measures of achievement were assessed. This strategy helped to provide a comprehensive understanding of academic achievement. Finally, this study utilized a longitudinal design, which allowed for the establishment of temporal precedence of the independent, moderating, and dependent variables. There was a relatively high retention rate from Time 1 to Time 2, which helped to increase power in this study.

Despite the strengths of this study, it also had its limitations. One limitation of this study was the limited range of responses on the perceived racial discrimination measure. In general, participants perceived very low levels of racial discrimination. Because this study was conducted at two ethnically homogenous high schools, it is possible that participants did not perceive the types of discrimination that were assessed by the discrimination measure used in the present study. If participants attended more racially and/or ethnically diverse schools, perhaps they would have more interaction with adults from different racial/ethnic backgrounds, and would thus have more potential for experiencing discrimination.

The discrimination measure used in this study focused exclusively on racism from adults and did not measure racial discrimination from peers or forms of systemic discrimination. Additionally, it is possible that the discrimination measure suggested examples of discrimination that were more applicable to males than to females. For example, one item in the discrimination measure asked participants how often they feel like adults treat them like a troublemaker because of their race or ethnicity. Because young men of color are often targeted as troublemakers, it is possible that items such as the one just described would be less applicable to female participants. If this is the case, the measure used in this study may not have adequately assessed racial discrimination among female participants.

One other potential limitation of this study was the manner in which the data were collected. The survey that was administered to the participants in this study was lengthy, and it took students approximately 45-minutes to one hour to complete. The survey was administered in a traditional classroom setting, which can sometimes be noisy and filled with distractions. Participants completed the surveys in the presence of their peers, and these conditions may have prevented participants from fully concentrating on each measure in the survey.

Recommendations for Future Research

The results of this study suggested several interesting relationships that help to better understand the relationships among perceived racial discrimination, ethnic identity, coping efficacy, and academic outcomes among urban, low-income Latina/o youth. However, there is still much research left to be conducted

in this area. Future research should examine perceptions of racial discrimination among urban, low-income Latina/o youth in greater depth. Specifically, future research should examine the intersectionality of race/ethnicity and gender in experiences of racial discrimination. Future research should also examine systemic forms of discrimination that occur at various ecological levels to gain a more comprehensive understanding of racial discrimination experienced by this group.

The hypotheses tested in this study should also be examined in a more ethnically heterogeneous context to explore the role of ethnic diversity in these relationships. The participants in the present study attended two predominately Latina/o high schools located in ethnically homogenous neighborhoods. It is possible that different results would emerge if the same study were conducted in an ethnically diverse context, or in a context in which Latina/os were the minority group. Finally, future research should examine these relationships among racial discrimination, ethnic identity, coping efficacy, and academic outcomes with a mixed methods approach. It is possible that the racial discrimination and ethnic identity measures were not accurately assessing racial discrimination and ethnic identity as they are experienced by this particular group. A qualitative component would help researchers to better understand how urban, low-income Latina/o youth experience and perceive these constructs.

Conclusion

In conclusion, this study supports the idea that ethnic identity and coping efficacy can serve as protective factors for urban, low-income Latina/o youth. In

the present study, ethnic identity and coping efficacy helped buffer the negative effects of perceived racial discrimination on some academic outcomes, including GPA, attendance, and extrinsic motivation. This is one of the first studies to examine the relationships among coping efficacy and academic outcomes, and it is the first study to identify coping efficacy as a protective factor that can help buffer urban, low-income Latina/o youth from harmful effects of perceived racial discrimination.

While the results of this study provided additional support for the idea that in general, perceived racial discrimination negatively impacts students' academic performance, there were some results that suggested Latino male adolescents and Latina female adolescents may react to experiences of racial discrimination differently. Future research should explore this idea further by examining the role of gender in the experience of racial discrimination. The results of this research provide support for interventions that promote ethnic identity and help to build a sense of coping efficacy among urban, low-income Latina/o youth.

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