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Discrimination experiences can act as salient stressors for ethnic minority adolescents by impacting a variety of developmental outcomes in a negative manner. However, the majority of available research on adolescent discrimination experiences has been conducted with African American samples and a paucity of discrimination research exists with Latino adolescents. The current study examined associations among discrimination, self-regulated learning efficacy, and academic achievement for 399 Latino adolescents. Using a risk and resilience theoretical framework, this study examined the potential for discrimination from peers, authority figures, and teachers to function as risk factors for lower self-regulated learning efficacy and lower academic achievement. Self-regulated learning efficacy was examined as a potential generative mechanism, providing a partial explanation for why discrimination experiences might be associated with lower academic achievement. Parental support and monitoring were included as possible protective factors, and adolescent gender (being female) was included as a vulnerability factor.

Results provided support for the central hypothesis and demonstrated that discrimination experiences act as risk factors for lower self-regulated learning efficacy and lower academic achievement among Latino adolescents. Self-regulated learning efficacy functioned as a generative mechanism in the association between discrimination and academic achievement. Maternal and paternal support moderated the association between discrimination and self-regulated learning efficacy, but did not function as

protective factors. Adolescent gender moderated the association between discrimination and academic achievement, but provided only partial support for study hypotheses.

Results contributed to previous research by examining associations among discrimination and academic endeavors with a Latino sample, an ethnic minority group that has previously been understudied within discrimination literatures.

PERCEIVED DISCRIMINATION AND ACADEMIC ACHIEVEMENT AMONG  
LATINO ADOLESCENTS: A RISK AND RESILIENCY MODEL

By

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Approved by

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Committee Chair

To AJ, who taught me more than pages in a book  
or lessons in a lecture – you taught me unconditional love.

APPROVAL PAGE

This dissertation has been approved by the following committee of the Faculty of The Graduate School at The University of North Carolina at Greensboro.

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## CHAPTER I

### INTRODUCTION

Adolescence is a time when individuals increasingly become concerned with how they are viewed by others, including family members, peers, and the general public. Advances in formal operational thought, including heightened sensitivity to outsider evaluations, are normative aspects of adolescent development (Elkind, 1967; Inhelder & Piaget, 1958). However, perceptions of interactions with others might be particularly important for ethnic minority individuals. During adolescence, members of ethnic minority groups increasingly become aware of how others view and react to their ethnic group membership (Phinney, 1989). Thus, discrimination experiences highlighting the manner in which others react to ethnic minority group membership might be of particular salience for a variety of outcomes among ethnic minority adolescents.

Previous research examining discriminatory experiences among Latino adolescents has reported negative outcomes such as lower grade point averages, lower self-esteem, increased drop-out likelihood, and lower generalized academic well-being associated with perceived discrimination (DeGarmo & Martinez, 2006; Greene, Way, & Pahl, 2006; Martinez, DeGarmo, & Eddy, 2004). Although discrimination experiences might affect a variety of outcome domains for Latino adolescents, the current study focuses on academic achievement for three reasons. First, academic achievement can be considered a salient developmental task, as academic success is associated with mastery

of skills necessary for future occupational and educational endeavors (Masten & Coatsworth, 1998). Thus, academic success has implications for a variety of future academic and career opportunities such that success or failure during adolescence is likely to be followed by similar outcomes in later stages of development (Boss, 1988; Elder & Conger, 2000; Henderson & Dweck, 1990; Roisman, Masten, Coatsworth, & Tellegen, 2004). Second, the school dropout rate for Latino adolescents is 2.4 times that of White non-Latino students and 1.6 times that of Black non-Latino students (U.S. Department of Commerce). These statistics suggest a need to focus on academic endeavors for Latino adolescents to determine factors that might be responsible for academic difficulties and students choosing to discontinue their academic careers prematurely. Finally, previous research suggests that adolescents who experience discrimination within the school environment from teachers and peers might be more likely to experience maladaptive outcomes within that same environment (Wentzel, 1997). Adolescents who experience higher levels of discrimination might be more likely to report negative views of themselves, specifically pertaining to academic endeavors, thus increasing the likelihood for academic difficulties.

Adolescent reports of low self-regulated learning efficacy (the ability to regulate learning through planning, organizing, and structuring of the environment; Bandura, Pastorelli, Barbaranelli, & Caprara, 1999) is one example of negative self-perceptions pertaining to academic endeavors. Latino students who experience higher levels of discrimination might be more likely to report lower self-regulated learning efficacy due to negative self-perceptions that develop from daily encounters with prejudicial

treatment. Given that previous research suggests a positive association between self-regulated learning efficacy and academic achievement (Lent, Hackett, & Brown, 1999), adolescents reporting lower self-regulated learning efficacy associated with discrimination experiences are then more likely to experience lower academic achievement. In this manner, the current study examines self-regulated learning efficacy as an outcome-specific mediator providing partial explanation for why discrimination is associated with academic achievement.

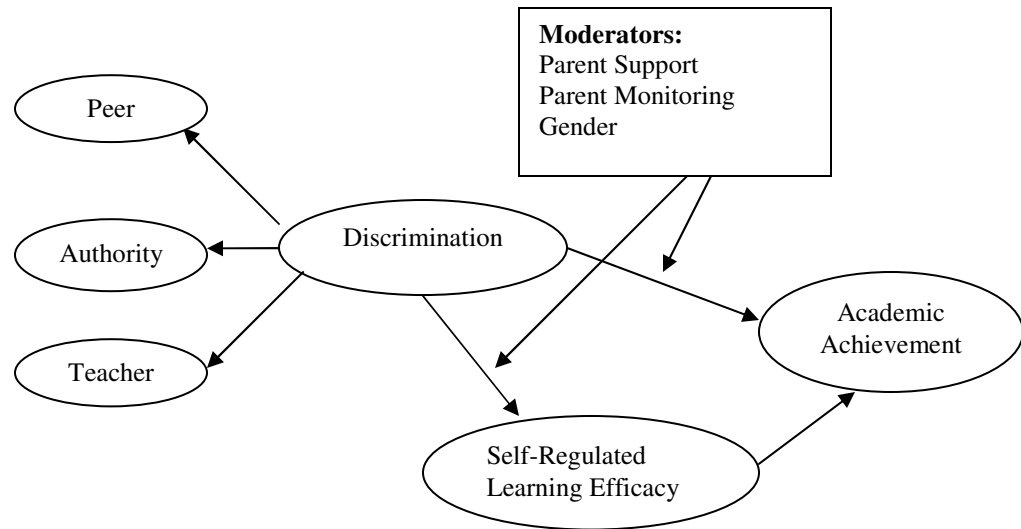
The main hypotheses for this study include negative associations between discrimination and both self-regulated learning efficacy and academic achievement, as well as a positive association between self-regulated learning efficacy and academic achievement. However, some adolescents might demonstrate high self-regulated learning efficacy and academic achievement despite exposure to discrimination. The current study examined parenting behaviors as potential factors responsible for why some Latino students demonstrate positive outcomes despite discrimination experiences and other students experience heightened difficulties. Parents who demonstrate high levels of support and interest in various aspects of adolescent daily lives could buffer students from the negative effects associated with discrimination experiences. These students might then demonstrate positive academic outcomes despite discrimination experiences. The potential for parental support and monitoring to provide protection for Latino adolescents exposed to discrimination is examined through moderator analyses in this study. Specifically, parental support and monitoring are included as potential moderators

in the association between discrimination and self-regulated learning efficacy, as well as in the association between discrimination and academic achievement.

Another factor that might be responsible for demonstrating why some adolescents experience negative outcomes associated with discrimination exposure and others evidence positive outcomes is adolescent gender. Previous research suggests that adolescence is a time of heightened stress for girls due to a greater focus on interpersonal relations and communion, as well as negative perceptions of pubertal changes (Petersen, Sarigiani, & Kennedy, 1991; Rudolph, 2002). Adolescent females tend to focus more on interpersonal relations and thus might experience more stress associated with normative changes that occur amongst peer groupings during adolescence (Rudolph). Adolescent males, on the other hand, tend to focus more on independence and autonomy and thus might not be affected by the changing dynamics of adolescent peer relationships as much (Bakan, 1966; Helgeson, 1994). Additionally, physical changes associated with puberty tend to affect girls negatively due to negative body images and concerns over reproductive potential, whereas adolescent males are more likely to report positive feelings about pubertal changes due to increased strength and stature associated with positive body images (Petersen et al, 1991). Taken together, girls experience heightened stress during adolescence compared to their male peer counterparts, and might be more reactive to additional stressors, such as discrimination. Thus, the negative association between discrimination and self-regulated learning efficacy, as well as the negative association between discrimination and academic achievement might be stronger for adolescent females. The current study examined adolescent gender (specifically being

female) as a moderator of the associations between discrimination and both self-regulated learning efficacy and academic achievement.

The specific goals of this study were: (1) to examine discrimination as a risk factor for self-regulated learning efficacy and academic achievement among Latino adolescents, (2) to determine if self-regulated learning efficacy serves as a generative mechanism in the association between discrimination and academic achievement, (3) to examine the potential for parental support and monitoring to buffer Latino adolescents from the deleterious effects of discrimination exposure, and (4) to determine if discrimination is associated with self-regulated learning efficacy and academic achievement differentially for Latino boys and girls. These goals were carried out using structural equation modeling with a sample of 399 Latino adolescents. Figure 1 depicts the hypothesized model with discrimination as the main predictor, academic achievement as the outcome, and self-regulated learning efficacy as the mediator. Within-sample analyses allowed for examination of parent support, parent monitoring, and adolescent gender as potential moderators.



*Figure 1.* Model describing hypothesized associations among discrimination, self-regulated learning efficacy, and academic achievement among Latino adolescents, including moderator effects.

To ensure conceptual clarity, a distinction is necessary between racial and ethnic discrimination for the purposes of this study. The manner in which ethnicity is operationalized within this study is similar to traditional conceptualizations of racial discrimination. According to Garcia Coll and colleagues (1996), race is a social construction wherein individuals are classified according to external physical characteristics such as skin color, hair texture, and facial features. In contrast, the social construction of ethnicity has been described as differential treatment due to national origin, language, or religion (Garcia Coll et al.). The current study asks adolescents to indicate whether they have experienced discrimination from peers, teachers, and authority

figures due to their Latino ethnicity. The underlying assumption is that peers, teachers, and other individuals engage in discriminatory behavior due to outwardly visible physical characteristics of youth and socially-constructed stereotypes. These persons likely did not take the time to learn participants' religion or what language they spoke, but instead engaged in discriminatory behavior based on skin, hair, and facial features, as well as preconceived notions about Latino adolescents and their families. Thus, the current study examined racial discrimination experiences for Latino adolescents by obtaining youth perceptions of when others have discriminated against them based on outwardly visible features suggesting that they belong to the Latino ethnic minority group.



## CHAPTER II

### THEORETICAL FRAMEWORK

Hypotheses for the current study were derived from a risk and resilience theoretical framework. From this theoretical perspective, adolescents experiencing increased risk for prejudicial treatment are not examined from a deficit perspective. That is, the focus of this study was not on how or why ethnic minority adolescents experience more negative academic outcomes compared to their non-minority peer counterparts. Instead, a risk and resilience framework was used to generate hypotheses for a within-sample study design in the hopes of elucidating how some Latino adolescents experience adaptive academic outcomes despite discrimination exposure. Although ethnic minority adolescents are more likely to experience discrimination and associated negative outcomes (compared to non-minority adolescents), the potential also exists for minority youth to experience adaptive outcomes despite this adversity (Masten, 2001). The current study sought to examine the processes that might be responsible for facilitating positive outcomes for Latino adolescents despite discrimination exposure.

#### *Definition of Terms and Key Concepts*

*Risk* is a term used to indicate the potential for negative outcomes in the near or distant future (Luthar & Cicchetti, 2000). Heightened risk is typically due to the presence of a risk factor, defined as any factor that increases the likelihood for negative outcomes and is the most basic component of the risk and resilience framework. Adolescents who

are described as at-risk are youth who are exposed to a variety of physical and emotional factors that carry an increased likelihood for negative outcomes. Examples of adolescent risk factors associated with negative developmental outcomes might include dangerous neighborhood environments, inadequate social support structures, punitive parent-child relationships, and substance abusing peers. Risk factors can be conceptualized as occurring at distal or proximal levels. Distal risk factors are those factors that adolescents are not directly affected by (e.g. socioeconomic status, low parent education level), but affect adolescents through proximal risk factors (e.g. restricted access to higher education institutions, uninvolved parenting; Masten, Best, & Garmezy, 1990). Although proximal risk factors serve an important purpose as mediators for resilience research by providing explanations for how distal risk factors affect adolescent outcomes, proximal risk factors may also have utility as direct predictors. Examining proximal risk factors as independent predictors allows for examination of how risk factors directly experienced by adolescents impact developmental outcomes. To this end, discrimination is examined in the current study as a proximal risk factor for Latino adolescent academic achievement. Further to the notion of risk factors, Luthar (1993) notes that it is not possible to identify all proximal risk factors associated with any specific outcome, or to definitively say that any specific factor is necessarily a risk factor for all youth. Luthar explains that the complex nature of adolescent development necessitates that risk factors be considered on a continuum. Risk experiences might be highly salient for some adolescents, but others are seemingly unaffected by the same risk experience. Thus, using the label of risk factor requires that potential variability be considered. Accordingly, variability in perceptions of

discrimination and individual responses to this exposure were considered in the current study.

Risk factors can be conceptualized as *stressors*, or stimuli that place physical or psychological demands on individuals above and beyond demands typically present in everyday life (Garmezy, 1981). Stressors can be considered acute or chronic in nature. Acute stressors have a sudden onset, are considered relatively unpredictable, and typically are associated with only short-term emotional difficulties. Examples of acute stressors include hospitalization of young children, environmental disasters such as hurricanes or tornadoes, and the birth or death of a family member. Chronic stressors are disturbances that impact daily life on a regular basis. Chronic stressors are more likely to be associated with long-term psychological difficulties. Examples of chronic stressors include parent psychological illness, marital conflict, and physical disabilities (Honig, 1986). In the current study, discrimination experiences were conceptualized as chronic stressors and operationalized as risk factors for academic difficulties among Latino adolescents. However, the overarching theoretical question was how Latino adolescents could experience adaptive functioning despite exposure to chronic discrimination within their near environments.

*Resilience*, defined as positive adjustment and competent functioning in the face of adversity, is the manner in which at-risk adolescents can experience adaptive functioning despite significant risk exposure (Luthar & Cicchetti, 2000; Rutter, 1999). Garmezy (1991) explains that resilience is not individual invulnerability to stressors, but instead individual abilities to recover from stressful encounters. It is not possible to

ameliorate individual vulnerability to stressors, and so individuals cannot be completely invulnerable to risk. But, according to a risk and resilience framework, it is possible to demonstrate resilience by successful recovery from stressful experiences. Rutter (2007) makes the clear distinction that resilience is not an observed trait, but rather a conclusion that is drawn based on observation of positive outcomes despite the experience of stressful conditions. Olsson, Bond, Burns, Vella-Brodrick, and Sawyer (2003) highlighted the importance of including process-oriented conceptualizations of resilience due to the inconclusive nature of findings when resilience is operationalized as just adaptive outcomes. Adolescents who demonstrate positive outcomes, such as high academic achievement or social competence, despite risk exposure are not necessarily devoid of psychological stress. Examining psychosocial outcomes as the only markers of adolescent resilience, but ignoring the stress and coping processes associated with risk exposure, means that the processes underlying the link between risk factors and outcomes are not captured. Thus, resilience must be examined from a process-oriented perspective to allow for the link between risk exposure and positive outcomes to be elucidated (Lazarus, 1999; Rutter, 2007). Accordingly, the current study examined mechanisms underlying adaptation and resilience for Latino adolescents exposed to discrimination by examining a process by which discrimination affects academic achievement.

One way individuals manage increased demands from stressors is through changes in performance, behaviors, and endurance levels. Adaptation and behavioral changes are the processes by which individuals cope with stressful encounters. According to Folkman and Lazarus (1980), *coping* can be defined as cognitive and behavioral

attempts to negotiate strenuous psychological demands. Coping with stressful experiences entails making a concerted effort to manage the stressor regardless of the outcome. Thus, the term coping is not only reserved for successful attempts at stress management, but encompasses all efforts to minimize, avoid, or master stressful experiences. Coping efforts can be described as functional or dysfunctional, with functional coping exemplified in individuals who make active attempts to deal with the current problem and dysfunctional coping demonstrated in individuals who engage in withdrawal, denial, or repression as a reaction to stressful situations (Colomba, Santiago, & Rossello, 1999).

The current study conceptualized self-regulated learning efficacy as an indicator of adolescent coping processes in reaction to discrimination exposure. Adolescents who report high levels of self-regulated learning efficacy despite high levels of discrimination exposure might be more likely to demonstrate adaptive coping processes, whereas adolescents who report low levels of self-regulated learning efficacy might be more likely to demonstrate maladaptive coping processes associated with discrimination experiences. Self-regulated learning efficacy was examined specifically as a *generative mechanism* in this study. A generative mechanism provides a potential explanation for the process underlying the association between two constructs. Self-regulated learning efficacy would function as a generative mechanism by explaining the pathway through which the risk factor of discrimination affects academic achievement for Latino adolescents.

However, all individuals do not respond to stressful stimuli in the same manner and thus a stimulus might elicit a stress response for some, and others would respond

with a neutral or positive response (Lazarus, 1999). To this end, abundant research has been devoted to discovery of protective and vulnerability factors responsible for buffering or compromising adolescent resilience in an effort to provide some insight into how or why some adolescents enact a stress response to a particular stimulus and other adolescents are seemingly unaffected. *Protective factors* help to separate those individuals who are resilient and experience adaptive outcomes in the face of adversity from individuals who experience negative outcomes as a result of exposure to significant risk (Gest, Neemann, Hubbard, Masten, & Tellegen, 1993; Luthar, Cicchetti, & Becker, 2000). Protective factors exist when the negative effects of risk exposure are ameliorated or buffered, resulting in higher competence in the presence of higher levels of the protective factor compared to the presence of lower levels of protection. For example, high parental support might provide protection from the negative effects of discrimination on academic achievement. In this manner, adolescents who receive higher levels of parental support experience higher academic achievement, despite also being exposed to higher levels of discrimination, compared to adolescents who receive lower levels of parental support. This is an example of how parental support might buffer adolescents from the deleterious effects of discrimination for academic achievement.

Garnezy (1985) delineated three categories of protective factors based on previous research. The first category includes individual characteristics of the child, such as temperament, intelligence, and possessing an internal locus of control. Individuals with easy temperaments and internal loci of control are more likely to experience adaptive outcomes despite significant risk exposure compared to individuals who do not possess

these specific qualities. The second category of protective factors includes family processes related to cohesion and warmth, such that individuals are more likely to experience adaptive outcomes despite significant risk exposure when they benefit from exposure to supportive, patient, helpful family members. The third category of protective factors includes the availability of external sources of social support. Individuals who indicate the availability of specific sources of external support are more likely to demonstrate resilience to stressful experiences just by knowing that help is available if needed. These sources of help can range from intervention programs, dedicated telephone help lines, and availability of family members, parents, peers, or clergy (Luthar & Zigler, 1991). According to Garmezy (1985), adolescents are more likely to experience resilience despite significant risk when they experience protective factors from one or more of these categories.

Contrary to protective factors, the presence of *vulnerability factors* increases the likelihood of negative outcomes by making individuals more susceptible to environmental risk (Rutter, 1999). *Vulnerability* can be described as the increased likelihood of experiencing greater psychological stress, or feelings of threat, harm, or challenge in response to the original stressor when individuals also experience a vulnerability factor (Luthar & Zigler, 1991). For example, children with difficult temperaments are more likely to demonstrate disruptive behavior due to their increased vulnerability to psychological stress in response to interactions and experiences within their environment. Simply having a difficult temperament increases the likelihood for children to experience negative outcomes associated with stressful experiences.

Similarly, youth with lower intelligence levels are more likely to demonstrate antisocial behavior as a result of being more vulnerable to environmental stress (Rutter, 1999). Thus, youth who possess individual characteristics predisposing them to negative outcomes due to heightened susceptibility to psychological stress are more likely to experience maladaptive outcomes in general, compared to their peer counterparts who do not possess the same vulnerability factors. Adolescent gender might be characterized as a vulnerability factor if being male or female increases the vulnerability to psychological stress and environmental risk and heightens the potential for negative outcomes. Accordingly, adolescent gender was conceptualized as a vulnerability factor in the current study, such that female adolescents are predisposed to experience maladaptive academic outcomes as a result of significant risk exposure simply due to their gender, irrespective of other social, emotional, or environmental influences.

Rutter (1990) highlighted the potential confound between protective and vulnerability factors such that they might sometimes be considered as two opposite ends of a continuum. For example, low intelligence might be considered a vulnerability factor but high intelligence a protective factor. Difficult temperaments in children might be considered a vulnerability factor but easy temperaments in children might be considered a protective factor. These are examples of where the same construct could be either a vulnerability or protective factor depending on where emphasis is placed for a specific study. Rutter (1990) suggested that the difference depends on whether researchers are interested in processes that promote adaptive or maladaptive outcomes. Low intelligence is more likely to promote maladaptive outcomes due to heightened susceptibility to



psychological stress associated with risk factor exposure. However, high intelligence is likely to promote adaptive outcomes because individuals are able to cope with stress in a more adaptive manner. Better coping skills increase the potential for adaptive outcomes and thus provide protection from the negative effects associated with risk exposure.

According to Rutter (1990), the distinction depends on which type of process is central to the research questions and study hypotheses.

### *Theoretical Application*

As precursors to resilience, two conditions are necessary to ensure adaptive functioning. First, individuals must have been exposed to significant risk and must also display adaptive functioning and positive outcomes despite this exposure (Luthar et al., 2000; Masten & Coatsworth, 1998). Risk is considered significant if most individuals experience negative or maladaptive outcomes as a result of risk exposure (Patterson, 2002). Previous research has demonstrated an association between perceived discrimination and maladaptive adolescent outcomes, such as increased anxiety and depression, violent behavior, and substance use (Caldwell, Kohn-Wood, Schmeelk-Cone, Chavous, & Zimmerman, 2004; Gibbons, Gerrard, Cleveland, Wills, & Brody, 2004; Landrine & Klonoff, 1996; Simons, Murry, McLoyd, Lin, Cutrona, & Conger, 2002). Thus, adolescents are more likely to experience negative psychosocial outcomes when they experience higher levels of discrimination on a regular basis. These findings suggest that perceived discrimination can be considered a significant risk factor for adolescents because exposure to discriminatory experiences increases the likelihood for individuals to experience maladaptive outcomes. Consistent with the distinction of proximal versus

distal risk factors by Masten et al. (1990), discrimination can be conceptualized as a proximal risk factor in the current study, given that it is experienced directly by Latino adolescents. Discrimination experiences were also conceptualized as chronic stressors for adolescents in this study, as these interactions are likely to occur on a more regular basis for ethnic minority adolescents compared to acute stressors that tend to be less prevalent in everyday interactions (Honig, 1986). Although all Latino adolescents are not necessarily expected to interpret discrimination experiences in a negative manner, the chronic nature of daily discrimination experiences increase the potential for adolescents to react with a stress response and heighten the potential for maladaptive developmental outcomes such as lower academic achievement. Thus, I hypothesize that discrimination experiences will be associated negatively with adolescent academic achievement, such that Latino adolescents who report higher levels of discrimination exposure are more likely to experience lower academic achievement.

Although a negative association between discrimination and academic achievement would provide some explanation for why Latino adolescents are prone to experience lower academic achievement, additional information could be provided through identification of an explanatory mechanism for this negative association. Previous research with Latino youth and adults has demonstrated that discrimination is associated with a host of negative outcomes, such as higher depression, increased aggression, and elevated stress levels (Araujo & Borrell, 2006; Greene et al., 2006; Smokowski & Bacallao, 2006). Furthermore, Latino and non-Latino youth who report higher levels of stress and depression, as well as those who display more externalizing

behaviors, are more likely to experience lower academic achievement (Alva & Reyes, 1999; Barriga, Doran, Newell, Morrison, Barbetti, & Robbins, 2002; Crean, 2004). This research suggests that mental health outcomes and problem behaviors could be considered as explanatory mechanisms through which discrimination is associated with academic achievement for minority adolescents. However, mental health and problem behaviors are general explanatory mechanisms that are neither stressor-specific nor outcome-specific. The current study examined self-regulated learning efficacy, defined as the ability to plan, organize, and remain motivated in academic endeavors (Bandura et al., 1999), as an outcome-specific mediator for the association between discrimination and academic achievement.

Gordon and Song (1994) explain that individuals are more likely to experience adaptive outcomes when they are able to act on their environment and feel efficacious in their ability to create changes based on purposeful, planful, and organized actions. Consistent with the proposition by Gordon and Song, if adolescents feel efficacious in their ability to organize and structure their academic pursuits, they are more likely to experience higher academic achievement. Thus, adolescents who demonstrate higher levels of self-regulated learning efficacy are more likely to experience positive outcomes such as higher academic achievement. In this manner, I hypothesize a positive association between self-regulated learning efficacy and academic achievement for adolescents in this study. Self-regulated learning efficacy also was conceptualized as a generative mechanism, allowing for examination of the process by which discrimination is associated with academic achievement.

Repeated exposure to discrimination might create elevated stress levels and increase the potential for a stress response. Latino adolescents experiencing heightened stress levels are less likely to engage in functional coping and more likely to engage in dysfunctional coping processes. Adolescents who engage in withdrawal, denial, and repression in their efforts to cope with discrimination stress are less likely to feel effective in a variety of endeavors, including their academic pursuits. These adolescents are then less likely to demonstrate self-regulated learning efficacy, and less likely to remain resilient from the deleterious effects of discrimination experiences. Accordingly, I hypothesize a negative association between discrimination and self-regulated learning efficacy in the current study. Taken together, self-regulated learning efficacy acts as a potential generative mechanism for the association between discrimination and academic achievement for Latino adolescents. A hypothesized negative association between discrimination and self-regulated learning efficacy, coupled with a hypothesized positive association between self-regulated learning efficacy and academic achievement, creates the potential for self-regulated learning efficacy to act as a mediator in this study. Self-regulated learning efficacy was anticipated to function only as a partial mediator because self-regulated learning efficacy does not likely explain all of the association between discrimination and academic achievement. Although changes in self-regulated learning efficacy might provide one explanation for how discrimination experiences are associated with academic achievement, additional mediators based on mental health or adolescent problem behaviors (for example) might provide additional explanations.

To examine the factors responsible for buffering or compromising adolescent resilience from discrimination experiences, parental support and monitoring were examined as protective factors, and adolescent gender was examined as a vulnerability factor. Parental support and monitoring fall within two categories of protective factors that are expected to promote resilience among adolescents exposed to significant risk. Parent-adolescent relationships characterized by support, love, acceptance, and warmth, as well as relationships where parents monitor adolescent whereabouts on a consistent basis, are consistent with Garmezy's (1985) description of family factors and social support categories to promote resilience. According to Garmezy (1985), adolescents are more likely to experience resilience when they are exposed to supportive, patient, and helpful family members, and when these support sources are available in times of need.

More recently, Gordon and Song (1994) proposed that meaningful relationships with significant others act as buffers against maladaptive outcomes. Adolescents who interpret relationships with parents as supportive and involved are more likely to characterize those relationships as meaningful, and thus more likely to experience a buffer effect from the potential negative impact of discrimination experiences. In this manner, parenting separates adolescents who are able to remain resilient and experience adaptive outcomes in the face of adversity from adolescents who experience maladaptive outcomes. Consistent with Garmezy's (1985) recommendations, as well as the proposition put forth by Gordon and Song, I propose that adolescents who report higher levels of parental support and monitoring are more likely to evidence resilience from the negative impact of discrimination experiences compared to adolescents who report lower

levels of these parenting behaviors. Latino adolescents who are exposed to high parental support and monitoring will be less likely to react to discrimination experiences with a stress response and more likely to maintain higher self-regulated learning efficacy and academic achievement. Accordingly, parental support and monitoring will act as significant moderators in the association between discrimination and self-regulated learning efficacy, as well as in the association between discrimination and academic achievement. I anticipate that the negative association between discrimination and self-regulated learning efficacy, as well as the negative association between discrimination and academic achievement will be attenuated for adolescents who experience higher levels of parental support and monitoring. Given the expectation of attenuation, partial buffering effects are anticipated. Parenting might only be one domain that provides protection from discrimination experiences, and because it may not be possible to eliminate completely the negative outcomes associated with discrimination exposure, only partial buffering effects are anticipated in this study.

Research examining overall risk and resilience among youth has suggested that boys are generally more vulnerable during childhood, but that girls are more vulnerable to environmental risk and maladaptive outcomes during adolescence (Honig, 1986; Rutter, 1979; Werner & Smith, 1982). Specifically, male children tend to be more vulnerable to psychosocial trauma and physical stressors, have higher incidences of dyslexia, engage in more delinquent behavior, and are more likely to suffer from academic difficulties. However, by adolescence, girls are more susceptible to psychological stress due to changes in societal expectations, sexual pressure from peers,

and hormonal changes triggered by puberty (Werner & Smith). Research has demonstrated that female adolescents demonstrate greater propensities towards interpersonal stress and conflict, and that girls tend to report greater numbers of stressful events during adolescence compared to their male peer counterparts (Rudolph, 2002; Rudolph & Hammen, 1999; Wagner & Compas, 1990). From a risk and resilience perspective, being a female adolescent can be considered a vulnerability factor, such that female adolescents are more likely to experience negative outcomes associated with significant stress exposure compared to male adolescents. Pertinent to the current study, female Latino adolescents are expected to be more vulnerable to psychological stress associated with discrimination experiences. Latino females who experience higher levels of discrimination are more likely to enact a stress response, report lower self-regulated learning efficacy, and experience lower academic achievement. I anticipate that the negative associations between discrimination and self-regulated learning efficacy, as well as between discrimination and academic achievement will be stronger for female Latino adolescents compared to their male counterparts. Being a male adolescent, however, was not considered a protective factor in this study, as there is no evidence to support the notion that being a male adolescent provides protection for individuals exposed to chronic stress.

### CHAPTER III

#### LITERATURE REVIEW

The Latino population in the United States is growing at a rapid pace. Over the years from 1990 to 2000 the Latino population increased by 58%, compared to a 13% increase in the general United States population. Furthermore, Latinos represent the largest minority group in the United States at 12.5% of the population, surpassing African Americans as the second largest minority group at 12.3% (Marotta & Garcia, 2003; Ferreira, Chapman, & Stein, 2006). Given the increasing Latino population in the United States, information about adolescent socialization, the family environment, and salient developmental outcomes can be useful for individuals working with Latino children and adults. The current study focuses on discrimination experiences and associations with self-regulated learning efficacy, academic achievement, and parenting behaviors.

#### *Discrimination*

Adolescents from minority cultures must navigate the challenges of adolescent development with the added stress of coping with discriminatory experiences (Fisher, Wallace, & Fenton, 2000; Greene et al, 2006; Kessler, Mickelson, & Williams, 1999). Discrimination is defined as unfair or differential treatment due to individual characteristics such as race, ethnicity, gender, religion, socioeconomic status, or education (Greene et al.). Discrimination can be subtle or overt, and is typically a result of preconceived notions (stereotypes) about a particular minority group (Garcia Coll et



al., 1996). Compared to members of the majority culture, ethnic minority individuals are likely to experience a larger proportion of discriminatory experiences due to differences in outwardly visible individual characteristics (Crocker, Major, & Steele, 1998). Previous research has described discrimination experiences as chronic life stressors or daily hassles, wherein individuals encounter subtle forms of prejudice, exclusion, and differential treatment on a regular basis (Harrell, 2000). This type of discrimination serves as a constant reminder of ethnic minority status and acts as a chronic stressor increasing the likelihood for negative mental health outcomes (Araujo & Borrell, 2006; Greene et al.). Other research has examined acute discriminatory experiences, described as sporadic encounters with discrimination in specific environments such as employment, financial institutions, and health care (Harrell).

Discrimination becomes increasingly important to examine during adolescence, as this developmental period includes gains in cognitive abilities related to formal operational thought, providing adolescents new abilities to understand how they are perceived by others (Inhelder & Piaget, 1958). Pertaining specifically to ethnic minority groups, adolescence is the time when individuals begin to examine their ethnic identity by exploring their cultural heritage, learning about culture-specific roles and expectations, and adopting specific aspects of their ethnicity into their personality and self-concept (Phinney, 1990). Additionally, adolescence is a time when individuals begin spending more time with peers and the potential to encounter discrimination experiences is greater (Rubin, Bukowski, & Parker, 1998). Cognitive abilities of formal operational thought, coupled with an emerging sense of ethnic identity and increased potential for

discriminatory experiences, allow ethnic minority adolescents to begin understanding how their ethnic group is viewed by others (Greene et al., 2006; Phinney & Chavira, 1995).

Previous research has demonstrated that adolescents exposed to higher levels of discrimination based on race or ethnicity are more likely to experience negative outcomes such as lower self-esteem, more depressive symptoms, increased anger, lower academic achievement, lower academic motivation, more violent behavior, and increased delinquent behavior and substance use (Caldwell et al., 2004; Greene et al., 2006; Simons et al., 2002; Whitbeck, Hoyt, McMorris, Chen, & Stubben, 2001; Wong, Eccles, & Sameroff, 2003). However, the majority of research on adolescent discriminatory experiences has been conducted with African American samples (Rosenbloom & Way, 2004), and limited research exists examining the effects of discrimination for Latino adolescents. Available research examining discrimination experiences among adult Latino men and women found that discrimination experiences are associated with higher depression, lower self-esteem, higher generalized psychological distress, and decreased feelings of personal control (Alderete, Vega, Kolody, & Aguilar-Gaxiola, 1999; Finch, Kolody, & Vega, 2000; Moradi & Risco, 2006). Research examining perceived discrimination among Latino adolescents suggests that discrimination experiences are associated with decreased feelings of personal control and social dominance, lower grade point averages, increased drop-out likelihood, lower generalized academic well-being, more depressive symptoms, and lower self-esteem (DeGarmo & Martinez, 2006; Greene et al.; Martinez et al., 2004; Shorey, Cowan, & Sullivan, 2002; Szalacha, Erkut, Garcia

Coll, Alarcon, Fields, & Cedar, 2003; Umaña-Taylor & Updegraff, 2007). Results reported by DeGarmo and Martinez provide specific support for the current study by demonstrating a significant association between discrimination and academic well-being (consisting of GPA, dropout likelihood, homework frequency, and dissatisfied performance) such that higher levels of discrimination are associated with lower academic well-being ( $\beta = -.46, p < .01$ ).

The current study contributes to previous research by examining associations among discrimination and academic achievement for Latino adolescents, which has only been examined thus far by DeGarmo and Martinez (2006). Discrimination experiences were examined as chronic stressors for Latino adolescents, increasing the risk potential and likelihood of maladaptive outcomes, including lower academic achievement. The current study also examined self-regulated learning efficacy as a potential generative mechanism providing a partial explanation for the association between discrimination and academic achievement. Finally, parenting behaviors were examined as potential protective factors that might alter the nature of the association between discrimination experiences and academic outcomes for Latino adolescents, whereas adolescent gender was examined as a vulnerability factor.

#### *Self-Regulated Learning Efficacy*

Defined as individual perceptions of an ability to act on the environment to produce desired effects (Bandura, Barbaranelli, Caprara, & Pastorelli, 1996), self-efficacy can be conceptualized within a variety of domains including social resources, academic achievement, extracurricular activities, and social skills. Self-regulated learning efficacy

is defined as adolescents' perceived ability to regulate their own learning through planning, organizing, and structuring the environment in an effort to increase the likelihood of academic success (Bandura et al., 1999). In this manner, self-regulated learning efficacy is a specific domain of the global self-efficacy construct. Adolescents with perceptions of high self-regulated learning efficacy are more likely to experience higher academic achievement and a wider variety of occupational choices in adulthood (Lent et al., 1999). Previous research has demonstrated that adolescents with perceptions of higher self-regulated learning efficacy experience less depression, higher academic achievement, and are less likely to engage in delinquent behavior (Bandura et al., 1996; Bandura, Barbaranelli, Caprara, & Pastorelli, 2001; Bandura, Caprara, Barbaranelli, Gerbino, & Pastorelli, 2003; Bandura et al., 1999). Thus, adolescents who feel efficacious in their ability to plan, organize, and structure their academic-related tasks are more likely to experience adaptive outcomes such as higher academic achievement.

Minimal research has examined self-regulated learning efficacy as a mediator in associations with adolescent outcomes. Research completed by Bandura and colleagues (1996; 2001) reported that self-regulated learning acted as a significant mediator in the association between parental academic aspirations and adolescent problem behaviors, moral disengagement, and academic achievement for samples of non-Latino children residing in Rome. When parents placed importance on academic pursuits and had high expectations for adolescent academic performance, adolescents experienced higher self-regulated learning efficacy, and an increased likelihood of experiencing positive outcomes. In this manner, self-regulated learning efficacy provided a partial explanation

for how parent academic aspirations influence adolescent problem behaviors, moral disengagement, and academic achievement. To date, associations among self-regulated learning efficacy, discrimination, and academic achievement have not been examined. Thus, a void remains in previous research wherein the potential for self-regulated learning efficacy to act as a mediator in the association between discrimination and academic achievement has not been tested.

#### *Parenting and Adolescent Outcomes*

*Parental support.* Defined as parental behaviors of warmth, love, and acceptance, parental support is conceptualized as an emotional aspect of parent-child interactions. Parent behaviors are specific, goal-directed behaviors enacted to socialize children and adolescents in a purposeful manner (Darling & Steinberg, 1993). The current study focused on specific behaviors displayed by parents in an attempt to make children feel comfortable, secure, accepted, and loved (Amato, 1990; Rollins & Thomas, 1979). Parental support can be considered an arena of comfort for adolescents, defined as a relationship or environmental context that provides relaxation, respite, comfort, and familiarity during times of stress (Call & Mortimer, 2001). Characterized in this manner, parental support provides adolescents with parent-child relationships that have the potential to buffer youth from the harmful effects of stress exposure. The concept of arenas of comfort is general in definition, but can applied to specific situations and stressors. In the current study, parental support is anticipated to act as an arena of comfort for adolescents exposed to chronic discrimination experiences. Parent-adolescent relationships characterized by high levels of parental support provide comfort and

protection for adolescents and might counteract the stress associated with discrimination experiences, decrease the likelihood of a stress response, and thus increase the potential for positive outcomes.

In previous research, emotional support from a variety of sources has moderated the association between significant risk exposure and various developmental outcomes. Wertlieb, Weigel, and Feldstein (1987), for example, demonstrated emotional support as a significant protective factor when adolescents exposed to higher levels of support from family and extrafamilial individuals were more likely to experience positive outcomes with exposure to undesirable life events compared to adolescents exposed to lower levels of support. Scarpa and Haden (2006) reported support from friends as a significant protective factor in the association between community violence exposure and aggression. Individuals who perceived higher levels of support from friends were less likely to display aggressive behavior with exposure to community violence. Research completed by Gomez and McLaren (2006) demonstrated parental support as a significant protective factor in the relationship between avoidant coping and feelings of anxiety or depression. Adolescents who typically engaged in avoidant coping styles reported fewer feelings of anxiety and depression when they experienced higher levels of support from mothers and fathers. Arellano and Padilla (1996) reported findings from qualitative research where adolescents who experienced parental support were protected from a variety of educational risk factors. Given that social support from a variety of individuals has acted as a significant protective factor in previous research, the current study examined the potential for parental support to act as a protective factor in the association

between discrimination and self-regulated learning efficacy, as well as between discrimination and academic achievement.

One recent study by DeGarmo and Martinez (2006) examined associations among discrimination, parental support, and academic outcomes. Results from this study demonstrated that parental support acted as a significant protective factor in the association between discriminatory experiences and academic well-being. Thus, adolescents were buffered from the negative effects of discrimination and were able to remain resilient in their academic endeavors when they reported higher levels of parental support. In a similar manner, I expect that parental support will function as a protective factor and counterbalance the stressful effects of discrimination. The negative association between discrimination and self-regulated learning efficacy, as well as the negative association between discrimination and academic achievement will be attenuated when adolescents report higher levels of parental support. In this manner, parental support provides protection from the harmful effects of discrimination for academic endeavors.

*Parental monitoring.* Parental monitoring, an aspect of parental control, is defined as a specific parent behavior with the goal of socializing and manipulating child behavior by engaging in tracking and surveillance of adolescent daily activities (Barber, 2002; Stattin & Kerr, 2000). Parental monitoring of adolescent activities is conceptually distinct from parental knowledge of adolescent whereabouts gained through child disclosure or parent solicitation (Stattin & Kerr). Parent monitoring can be described as purposeful tracking and surveillance behaviors that parents engage in at specified times throughout the day or week to remain informed about extracurricular activities. Parental knowledge,

however, is characterized by the amount of information parents obtain concerning adolescent whereabouts through regular parent-adolescent interactions. Parents might gain knowledge from daily conversations they have with adolescents, but monitoring occurs when parents engage in organized tracking and surveillance behaviors. These terms are related in that parents who engage in high levels of monitoring are more likely to possess higher amounts of knowledge concerning adolescent whereabouts (Pettit, Keiley, Laird, Bates, & Dodge, 2007). However, the current study is only concerned with the degree to which parents engage in tracking and surveillance behaviors.

When parents monitor adolescent whereabouts and keep track of their activities and peer groups, adolescents are more likely to experience higher academic achievement, higher self-esteem, less behavior problems, and higher self-efficacy (Bean, Bush, McKenry, & Wilson, 2003; Herman, Dornbusch, Herron, & Herting, 1997; Ingoldsby, Schvaneveldt, Supple, & Bush, 2003; Pettit, Laird, Dodge, Bates, & Criss, 2001). Previous research has demonstrated that parental monitoring and tracking behaviors act as protective factors for adolescents exposed to significant risk experiences. Adolescents who engaged in a variety of risky behaviors, including binge drinking, drug use, gang membership, and adolescents who exhibited higher depressive symptomatology, were less likely to report engaging in subsequent externalizing problem behaviors when higher levels of parental monitoring were experienced (Piko, Fitzpatrick, & Wright, 2005). Parental monitoring also acted as a significant moderator in the association between exposure to maternal psychopathology and negative adolescent outcomes (Tiet, Bird, Hoven, Wu, Moore, & Davies, 2001). When parents engaged in increased monitoring of



adolescent behaviors and activities, adolescents were less likely to demonstrate psychiatric disorders and functional impairments despite exposure to maternal psychopathology. Given that parental monitoring has acted as a protective factor for adolescents exposed to significant risk experiences in previous research, the current study examined the potential for parental monitoring to serve as a protective factor in associations between discrimination, self-regulated learning efficacy and academic achievement. Latino adolescents whose parents monitor adolescent activities and behaviors might be more likely to demonstrate resilience despite exposure to discrimination. In this manner, parent monitoring provides protection from the deleterious effects of discrimination, decreases the likelihood that adolescents will react to discrimination with stress responses, and increases the potential for higher self-regulated learning efficacy and academic achievement.

### *The Role of Gender*

Available research demonstrates that female adolescents are more vulnerable to stress exposure compared to their male peer counterparts and that female adolescents report experiencing more stressful events (Wagner & Compas, 1990). One potential reason for these gender differences might be that female adolescents rely more on peers for emotional support, and report higher levels of interpersonal conflicts in intimate relationships (e.g. family, peers, and romantic partners) compared to adolescent males who are less concerned with interpersonal relations (Rudolph, 2002). Results from available research demonstrate that female adolescents evidence higher levels of interpersonal stress compared to boys, and that this gender variation was not present

before the transition into adolescence (Rudolph & Hammen, 1999). Additionally, adolescent girls tend to view pubertal changes negatively due to adverse or ambiguous feelings about reproductive ability and body image (Petersen et al., 1991). These negative perceptions of physical changes during adolescence, coupled with heightened interpersonal conflicts, might elevate stress levels among adolescent girls and increase the potential for maladaptive outcomes in general. Taken together, adolescence seems to be a particularly stressful time for girls such that they are more vulnerable to psychological stress compared to their male peer counterparts.

Research also has suggested gender differences in perceptions of discrimination experiences, as well as in academic achievement levels. Results from qualitative interviews with 24 adolescents self-identified as mostly African American or Latino suggested that males were more likely to report discriminatory experiences compared to their female counterparts (Way, 1998). Pertaining to academic achievement, Crosnoe, Johnson, and Elder (2004) demonstrated that female adolescents are more likely to experience higher academic achievement compared to their male counterparts, suggesting that males are more vulnerable with respect to academic difficulties. Although boys might be more likely to report discrimination experiences, and more likely to experience lower academic achievement, these findings only provide support for hypotheses concerning mean levels of discrimination exposure and academic achievement. This type of research does not provide any insight into how discrimination experiences are associated with salient adolescent outcomes or the process underlying these associations.

To examine how associations between discrimination and salient adolescent outcomes might differ for female and male adolescents, the current study examined the role of gender in associations among discrimination, self-regulated learning efficacy, and academic achievement. Consistent with previous research and the notion that female adolescents are typically more vulnerable to stress compared to male counterparts at this developmental stage, I hypothesize that discrimination experiences will be more harmful for female Latino adolescents. I propose that discrimination will act as a more salient stressor and that female adolescents will be more likely to react to discrimination exposure with a stress response. As a result, the negative associations between discrimination and both self-regulated learning efficacy and academic achievement will be stronger for girls in this study.

### *Hypotheses*

Analyses will provide evidence to support or refute a total of nine specific hypotheses. (1) Discrimination will be associated negatively with academic achievement. (2) Discrimination will be associated negatively with self-regulated learning efficacy. (3) Self-regulated learning efficacy will be associated positively with academic achievement. (4) Self-regulated learning efficacy will act as a generative mechanism helping to explain the association between discrimination and academic achievement. (5) Parental support will act as a partial protective factor in the association between discrimination and self-regulated learning efficacy. (6) Parental support will act as a partial protective factor in the association between discrimination and academic achievement. (7) Parental monitoring will act as a partial protective factor in the association between discrimination

and self-regulated learning efficacy. (8) Parental monitoring will act as a partial protective factor in the association between discrimination and academic achievement.

(9) Negative associations between discrimination and both self-regulated learning efficacy and academic achievement will be stronger for female adolescents than for male peer counterparts.

## CHAPTER IV

### METHODS

#### *Procedures*

After obtaining written permission from the school principal, adolescents from a year-round high school in the Los Angeles Unified School District were invited to participate in the current study. Teachers for all ninth-grade courses in the school distributed information packets containing parental consent forms to the students in their classes. Most of these students were ninth graders, but some tenth-grade students were enrolled in these courses as well. Adolescents who returned completed parental consent forms were then asked to sign participant consent forms. Students who did not have parental consent, or who did not want to participate in the study, were given alternate activities (crossword and word find) to complete during data collection. Adolescents with appropriate consent and assent completed study questionnaires during their elective classes (classes excluding science, math, or English). Research team members remained in classrooms during data collection to answer questions or concerns from adolescents or teachers. At the conclusion of data collection, students were given a brief overview of the research study and an opportunity to ask questions about the project.

Data were collected during the 2006 Spring and Summer school sessions. On the day of data collection, 85.5 percent of the students who were present at school that day participated during the Spring session, and 91 percent of students participated during the

Summer. Non-participation was mostly due to lack of parental consent, with approximately five percent of students (combined across both sessions) whose parents did not want them to participate, and approximately eight percent of students who did not return their parental consent forms. Only two students chose not to participate even though parental consent had been obtained. A total of 351 students from the Spring session and 88 students from the Summer session completed study questionnaires. The sample for this study was restricted to students who self-identified their ethnicity as either Latino American (24.9%) or Latino (77.8%), including ethnic categories of Hispanic (17.5%), Mexican (44.5%), El Salvadoran (11.1%), Guatemalan (1.7%), and Nicaraguan (.3%). A total of 33 students who did not meet this criterion were excluded from analyses. Investigation of the birth country of mothers and fathers for student participants who did not self-identify their ethnicity resulted in exclusion of seven more participants with parental birth countries of Armenia, India, and the Philippines. Analyses were completed to determine if significant differences existed in mean levels of discrimination, self-regulated learning efficacy, or academic achievement for participants who self-identified as Hispanic, Mexican, El Salvadoran, Guatemalan, or Nicaraguan. Independent-samples t-tests with ethnic subgroup as the grouping variable did not demonstrate any significant differences across groups, suggesting that results likely are not biased by any differences that might exist for participants across ethnic subgroups. Similar analyses were completed to examine the potential for differences in socioeconomic status for participants from different ethnic subgroups. Examining adolescent reports of mother and father educational attainment, no significant differences

were found across ethnic subgroups, suggesting that study results will not be affected by socioeconomic differences within this sample of Latino adolescents.

The final sample consisted of 399 students with 318 from the Spring data collection and 81 from the Summer session. Analyses were conducted to determine if any significant differences existed among student participants from the two separate data collection sessions and whether these differences increased the likelihood for biased results. Independent-samples t-tests were completed with data collection session as the grouping variable (coded zero for Spring session and one for Summer session). Comparisons were completed for all study variables (discrimination, self-regulated learning efficacy, maternal and paternal parenting, and academic achievement) at the item level, as well as demographic variables of family structure and paternal education level.

Results demonstrated a significant difference for one item in the discrimination scale. Examination of means for the item demonstrated that students who participated in the Summer data collection were less likely to report discrimination from adults (“How often have adults suspected you of doing something wrong because you are Latino?”) due to ethnicity ( $M = 1.44$  Spring;  $M = 1.30$  Summer). Given that the significance level for these comparisons was set at  $p < .05$ , for every 20 statistical comparisons there is the potential for one significant difference to be due to chance. There were no significant differences on any of the other items in the discrimination scale, and no significant differences emerged for any other items or demographic variables. The one difference that was found could conceivably be attributed to chance, and thus it was determined that

any difference between data collection session groups does not increase the likelihood for biased results.

### *Research Design*

The current study examined associations among discrimination, self-regulated learning efficacy, academic achievement, and parenting behaviors with a sample of Latino adolescents from an existing data source. Data were obtained from one high school in Los Angeles, California where the student body was comprised of mostly Latino students. The research design for this study is described as correlational, survey research, with cross-sectional data. Consistent with study goals and hypotheses, data were obtained from a school attended by mostly Latino adolescents to allow for within-sample comparisons.

Although the research design of this study has benefits in reference to within-group analyses, drawbacks create a variety of implications for conclusions that can be drawn based on study findings. The cross-sectional design allows for a cost-effective way to examine associations among constructs that have received minimal attention in existing research. Including such constructs in prospective research from the start would not be prudent, as cross-sectional research designs are better suited for examining correlations, variance, reliability, validity, and potential multicollinearity issues. However, a cross-sectional design does not allow for any causal or directional inferences to be made from study results. That is, only bidirectional associations among variables can be definitively concluded from results, and, as a result, implications regarding causality are largely theoretical.



The sample for the current study being drawn from a high school attended by mostly Latino students allowed access to a large sample of ethnic minority adolescents in just two data collection sessions. Although obtaining a sample from only one high school limits the generalizability of results and compromises external validity (Shadish, Cook, & Campbell, 2002), multi-site data collection sessions require substantial resources and a longer time frame. The convenience sample obtained for this study was adequate to address the stated research questions and study hypotheses, including within-sample comparisons. However, it is plausible that selection effects confounded study results, distorted conclusions, and limited the generalizability of findings (Nesselroade & Jones, 1991). Participants of this study all attended the same high school, and thus likely resided in similar areas surrounding the high school location. It is not known whether other neighborhood effects were present that might have impacted a large percentage of adolescents in this study. For example, the neighborhoods might have contained a large presence of gang members and delinquency such that adolescents did not have appropriate role models outside their family to provide guidance and support during times of stress. Similarly, there might have been a lack of community recreation and acceptable outlets for peer socialization. None of these neighborhood effects were measured within the current study, but they could certainly have been associated with lower reported levels of adolescent self-regulated learning efficacy and academic achievement. The potential introduction of extraneous variables due to selection effects is a threat to statistical conclusion validity through restricted range of scores, and also serves as a threat to internal validity (Nesselroade & Jones; Shadish et al.).

Even though selection effects are plausible in this study, and the validity of results can be called into question, steps can be taken to assess the degree to which these threats affect study results. Frequencies for all study variables can be examined to evaluate whether scores cluster at one end of the scale and if, in general, the pattern of scores is suggestive of a restricted range. This allows for an examination of whether the threat to statistical conclusion validity is problematic. Additionally, associations between discrimination, academic outcomes, and parenting have been examined previously among Latino adolescents (DeGarmo & Martinez, 2006). Although limited data are available, results from the current study can be compared to previous results to determine the extent to which results replicate across studies. Dramatically different results across studies suggest a threat to internal validity and provide support that selection effects might be responsible for confounding results.

Study participants provided answers to questions designed to assess their perceptions of discrimination, parent behaviors, and the degree to which they felt efficacious in academic endeavors. When participants provide self-report data on two or more variables in the same study, the potential exists for shared method bias to impact study results. Associations among variables are dependent on the amount of shared variance consisting of method or trait variance. High trait variance between two variables suggests that the relationship can be attributed to a valid relationship and is suggestive of construct validity. When two variables are measured by the same method, the shared method variance is inflated, and systematic error is introduced into research findings. Shared method bias creates a problem wherein the association between variables is driven

by an abundance of method variance instead of the true relationship between traits. Shared method variance is suggestive of a threat to construct validity (Nunnally & Bernstein, 1994). In the current study, associations among discrimination, self-regulated learning efficacy, and parenting potentially are inflated by method bias, suggesting a threat to construct validity.

Consistent with recommendations by Bank, Dishion, Skinner, and Patterson (1990) to include maximally dissimilar methods in research designs to avoid method bias, academic achievement data were obtained from school records in the current study. In this manner, associations between discrimination and academic achievement, as well as between self-regulated learning efficacy and academic achievement are not affected by shared method bias. There is a cause for concern, however, in associations among discrimination, self-regulated learning efficacy, and parent behaviors. Parent report or observational methods for parent behavior data would decrease the threat to construct validity. However, the use of adolescent self-report for assessment of discrimination and self-regulated learning efficacy contributes to construct validity in this study, as outside reports of discrimination or self-regulated learning efficacy would not be an accurate representation of the constructs.

To examine the extent to which method bias impacts associations among study variables, results can be examined for the presence of negative variances or correlation coefficients greater than 1.0, which would be suggestive of potential method bias. However, a more serious problem for detection is that correlation coefficients might remain interpretable and the presence of method bias still exists (Bank et al., 1990). As an

additional method to assess the threat to construct validity due to method bias, correlated uniqueness models within structural equation models are employed herein (Conway, 2004; Kenny & Kashy, 1992). In this manner, shared method variance is accounted for through correlations of unique error variances for constructs measured with the same method. A large amount of covariation between error terms of constructs with similar methods suggests a plausible threat to construct validity and parameter estimates between constructs are likely inflated. Minimal covariation between error terms of constructs with similar methods suggests that the threat of method bias is not a major concern for the impact of study results.

#### *Sample Characteristics*

The sample for the current study consisted of 399 adolescents self-identified as Latino, with a mean age of 14.58 ( $SD = .56$ ). The sample contains approximately equal proportions of male (54%) and female (46%) adolescents. The majority of participants were in the ninth grade (99%), with 3 students reported as being in the tenth grade. County demographic information demonstrates that approximately 45 percent of the county population from where the sample was drawn is comprised of Latino individuals (U.S. Census Bureau, 2000, Table P7 of SF3), and 24 percent of those individuals were living below the poverty level in 1999 (U.S. Census Bureau, 2000, Table P159H of SF3). Pertaining to educational attainment, 18 percent of Latino males and 18 percent of Latino females in the county obtained a high school diploma or equivalency (U.S. Census Bureau, 2000, Table P148H of SF3). These educational attainment figures are slightly higher than those reported for the current sample (13 percent of boys and 12 percent of

girls), suggesting that participants in the current study reside in families with slightly lower socioeconomic status compared to the general county population. According to the California Department of Education (August, 2007), students in the high school used for data collection are predominantly Latino (90%), and a majority of students are enrolled in the free or reduced lunch program (84%).

### *Measures*

*Ethnic discrimination.* Perceived ethnic discrimination was assessed with a 10-item scale adapted from Whitbeck and colleagues (2001). The original scale was designed to assess discrimination among Native American adolescents. Wording for all items remained the same with the exception of changing the terms “Native American” in the original scale to “Latino” for the current study. Adolescents indicated how often they were affected by discrimination from peers, authority figures, and teachers. Sample items include “How often have other kids treated you unfairly because of your ethnicity?” and “How often has a store owner, sales clerk, or person working at a place of business treated you in a disrespectful way because you are Latino?” Response options range from one (*never*) to three (*always*). Cronbach’s alpha was .79.

*Self-regulated learning.* The self-regulated learning subscale (11 items) of the Multidimensional Scales of Perceived Self-Efficacy (MSPSE; Bandura, 1990) was used in the current study. Adolescents were asked to rate their ability to focus on homework assignments, remain motivated, and organize their studies. Sample items include “How confident are you in your ability to get yourself to study when there are other interesting things to do?” and “How confident are you in your ability to arrange a place to study

without distractions?” Response options range from one (*not well at all*) to seven (*very well*). Cronbach’s alpha was .89.

*Parenting.* Adolescents responded to items adapted from the Parent Behavior Measure (PBM; Bush, Peterson, Cobas, & Supple, 2002; Henry, Wilson, & Peterson, 1989; Peterson, Bush, & Supple, 1999) designed to assess parental support (4 items) and monitoring (4 items). Sample items include “This parent figure tells me how much he/she loves me.” (support), and “This parent figure keeps track of who I am going to be with when I go out.” (monitoring). Adolescents responded to each item twice (once for each parent figure). Response options ranged from one (*strongly disagree*) to four (*strongly agree*). Cronbach’s alpha for mother data was .77 for support, and .80 for monitoring. Cronbach’s alpha for father data was .77 for support, and .83 for monitoring.

*Academic achievement.* School record data included final grades for courses taken during the academic term (Spring or Summer). Grades were obtained for all courses students were enrolled in during the term of data collection. Grades ranged from A to F and were coded from one (*F*) to five (*A*), where a higher code indicated higher academic achievement. Cronbach’s alpha was .76.

*Adolescent gender.* Participants responded to one item asking “What is your gender?” Adolescent responses were coded one for *male* and zero for *female*.

### *Analytic Strategy*

Results from missing data analyses demonstrated a mean of 1.9 percent missing values for variables of interest across all cases, with a few exceptions. Paternal parenting

variables demonstrated 13 percent missing values, due mostly to participants indicating that they do not live with their father. These students might not possess ample information to complete survey questions pertaining to paternal parenting and might have chosen to skip such items. These missing data do not impact the current study, as maternal and paternal parenting items are examined independently within moderator analyses. Missing data analyses also demonstrated 12.5 percent missing values for end of year grades. Although attempts were made to obtain complete school record data for all study participants, missing values still exist for one or more courses in some cases. To evaluate the plausibility for bias to impact results, cases with missing values for end of year grades were examined with respect to demographic variables such as data collection session, and participant gender. Results from these analyses suggest no pattern to missing academic achievement data. Furthermore, participants who were missing grades for some of their courses were not more likely to demonstrate lower or higher overall academic achievement (computed as an average of all available course grades), suggesting that missing values can be considered missing at random (MAR; Acock, 2005).

Structural equation models were created and analyzed with full information maximum likelihood (FIML). FIML is not an imputation technique, but rather a statistical approach that uses all available information and provides maximum likelihood estimations for data analyses when missing data exist. Other techniques addressing missing data, such as listwise deletion, pairwise deletion, or mean substitution, increase the likelihood for biased results, increase Type II errors, and underestimate correlation and regression coefficient estimates (Acock, 2005). Given that the amount of missing

data in the current study was minimal, and to reduce the likelihood of introducing bias into study results, FIML was used for all structural equation modeling analyses. Model fit was assessed based on the comparative fit index (CFI) and root mean square error of approximation (RMSEA). The CFI statistic ranges from 0 to 1.00, with values equal to or greater than .95 indicating a good model fit and values equal to or greater than .90 indicating an acceptable fit (Hu & Bentler, 1999). According to Browne and Cudeck (1993), RMSEA values below .05 suggest a good model fit, and values ranging between .06 and .08 suggest an adequate model fit.

Mediator analyses were completed according to criteria put forth by MacKinnon and colleagues (MacKinnon, Fairchild, & Fritz, 2007; MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002). Self-regulated learning efficacy was deemed a significant mediator if three conditions were met: (1) the path from discrimination to self-regulated learning efficacy was significant, (2) the path from self-regulated learning efficacy to academic achievement was significant, and (3) the path from discrimination to academic achievement was attenuated when self-regulated learning efficacy was included in the model. The Sobel test was also used as an additional test of mediation, providing an estimate of indirect effects based on the standard error of the mediated effect. According to MacKinnon and colleagues, the Sobel test has been deemed robust for samples of at least 100 participants, making this test appropriate for use in the current study.

Moderator effects for parenting variables were completed by inclusion of product terms as predictor variables to the baseline model. After centering, discrimination was multiplied by maternal support, maternal monitoring, paternal support, and paternal



monitoring, to create four product terms. Significant parameter estimates for the association between product terms and self-regulated learning efficacy suggested that parenting moderated the association between discrimination and self-regulated learning efficacy. Similarly, significant parameter estimates for the association between product terms and academic achievement suggested that parenting moderated the association between discrimination and academic achievement. Moderation effects for gender were examined through multi-group analyses comparing a fully constrained model to a model where structural parameters between discrimination and self-regulated learning efficacy, as well as between discrimination and academic achievement were allowed to vary (Buehler, Benson, & Gerard, 2006). A significant change in chi-square across the two models provided evidence of gender differences (Byrne, 2004).

## CHAPTER V

### RESULTS

This chapter presents findings from preliminary and hypothesis-testing analyses, as well as analyses examining the potential impact of selection effects and method bias on study results. Preliminary analyses are presented first, including results from correlations and factor analyses for all study variables. The next section details specific findings for each of the nine previously stated hypotheses, presented one at a time. The final section provides results for analyses pertaining to the potential impact of selection effects and method bias.

#### *Preliminary Analyses*

*Correlation results.* Correlations among study variables examined the extent to which variables are related to one another and as a first step in determining the capacity for these data to support or refute study hypotheses. Descriptive statistics including correlations, means, standard deviations, and ranges for each study variable are included in Table 1. Pertaining to discrimination, correlations provided initial support for hypotheses of how discrimination would be related to mediator and outcome variables. Discrimination was correlated negatively with both self-regulated learning efficacy and academic achievement, suggesting that discrimination could be classified as a risk factor for lower self-regulated learning efficacy and academic achievement for Latino adolescents. Consistent with hypotheses, self-regulated learning efficacy also was

correlated positively with academic achievement. Significant correlations between discrimination and self-regulated learning efficacy and between self-regulated learning efficacy and academic achievement suggested that self-regulated learning efficacy was appropriate for inclusion as a potential mediator in this study. Discrimination was correlated negatively with maternal and paternal support, but there were no significant correlations between discrimination and parental monitoring. Self-regulated learning efficacy was correlated positively with parental (maternal and paternal) support and monitoring, but academic achievement was correlated positively only with parental support.

There were also significant correlations of gender with discrimination, academic achievement, and maternal monitoring. The correlation between adolescent gender and discrimination was positive, and the correlation between gender and academic achievement was negative. Given that gender was coded where boys received codes of *one* and girls received codes of *zero*, correlation findings suggested that boys experienced more discrimination and lower academic achievement. Overall, correlations among study variables were small to moderate, and ranged from  $-.25$  to  $.30$ , with two exceptions. Maternal and paternal support was correlated at  $.58$ . Similarly, maternal and paternal monitoring was correlated at  $.65$ . Maternal and paternal parenting variables were expected to be correlated at least moderately, and these variables were not included in the same model for any subsequent analyses. Thus, multicollinearity among parenting variables did not present a problem in this study.

Table 1

*Descriptive Statistics and Correlations*

Variables	1	2	3	4	5	6	7	8
1. Discrimination	1.00							
2. Self-Regulated Learning	-.15**	1.00						
3. Academic Achievement	-.25**	.23**	1.00					
4. Maternal Support	-.12*	.24**	.14*	1.00				
5. Paternal Support	-.19**	.24**	.16**	.58**	1.00			
6. Maternal Monitoring	-.00	.20**	.02	.22**	.09	1.00		
7. Paternal Monitoring	-.09	.30**	.08	.11*	.27**	.65**	1.00	
8. Gender <sup>a</sup>	.15**	-.05	-.21**	.07	.04	-.10*	-.08	1.00
Mean	1.27	2.86	2.17	3.16	2.89	2.91	2.67	.46
SD	.29	.83	1.09	.67	.75	.75	.81	.50
Range	2.00	4.00	4.00	3.00	3.00	3.00	3.00	1.00

Note. <sup>a</sup> Boys coded one, girls coded zero.

\* $p < .05$ . \*\* $p < .01$ .

*Factor structures of study variables.* Although the measures used in this study were based on adaptations of established scales, minimal research has used these measures with Latino samples. The discrimination measure was created originally for use with Native American adolescents, and so the factor structure has not yet been assessed with Latino samples. The self-regulated learning efficacy scale has been used widely in a variety of social science research, but minimal research has examined its factor structure with Latino adolescents. Finally, although previous research has examined parenting items with Latino samples, some changes were made to the wording of items for this study, making it necessary to examine the factor structures with these data before proceeding with subsequent analyses.

Factor structures for each measure were examined by creating single-factor measurement models within AMOS (Version 7). Separate models were created for each study variable, and fit statistics were examined to determine whether these models

demonstrated a good fit to underlying data. Factor loadings were also examined for each item to assess internal consistency for the measure. Fit statistics with a CFI greater than .90 and a RMSEA less than .08 suggested an adequate fit of the factor structure to the underlying data. Factor loadings above .35 for each item comprising a measure suggested adequate internal consistency for the measure. Discrimination, self-regulated learning efficacy, and academic achievement items demonstrated moderate to high factor loadings ranging from .40 to .78, suggesting that all items should be retained for subsequent analyses. Two parental support items (one maternal support and one paternal support) demonstrated factor loadings lower than .35 and were removed from subsequent analyses. Factor loadings for maternal and paternal monitoring items ranged from .60 to .85, suggesting that all these items could be retained.

Single-factor models for self-regulated learning efficacy, academic achievement, and parenting variables all demonstrated adequate fit to underlying data. However, the single-factor discrimination model did not fit the underlying data (CFI = .74; RMSEA = .14), suggesting the need for an alternative factor structure. Exploratory factor analytic techniques were used to find the most appropriate factor structure for the discrimination measure with these data. Maximum likelihood extraction techniques were employed with varimax rotation methods within SPSS (Version 15). Results suggested that discrimination was best represented by three separate factors, comprised of discrimination from peers (5 items), authority figures (3 items), and teachers (2 items). Table 2 provides item descriptions and specific factor loadings for this measure. Two options were then available as an alternative factor structure for discrimination. Three

distinct variables of peer discrimination, authority discrimination, and teacher discrimination could be included in the baseline model either as manifest or latent variables. Alternatively, a higher-order discrimination variable could be created with three latent indicators of peer, authority, and teacher discrimination each specified to load onto the higher order factor. Using three separate discrimination variables suggests that the three factors are distinct from one another and that they represent three different concepts. On the other hand, the use of a higher-order discrimination variable suggests that the three factors are separate, but still share some variation. Correlations among the three factors were examined to determine the extent to which discrimination from peers, authority figures, and teachers are related to one another. Correlations among these three factors were moderate, ranging from .44 to .51, suggesting that discrimination factors might be best represented by a higher-order construct instead of as three distinct variables. Accordingly, the factor structure of a three-factor higher-order latent discrimination variable was examined in AMOS. This model demonstrated adequate fit to underlying data (CFI = .96; RMSEA = .06) and factor loadings ranged from .56 to .76.

The baseline structural equation model (see Figure 1) included a three-factor higher-order latent discrimination variable, and single-factor latent variables for self-regulated learning efficacy and academic achievement. Summary scores were created for each parenting variable and used as manifest product terms in moderator analyses. The baseline model demonstrated a good fit to the underlying data (CFI = .94; RMSEA = .04) with no correlated error terms. All factor loadings in the baseline model were acceptable, ranging from .42 to .78.

Table 2

*Rotated Factor Matrix for Discrimination Items*

	Factor 1	Factor 2	Factor 3
1. How often have other kids said something bad or insulting to you because you are Latino?	<b>.61</b>	.21	.05
2. How often have other kids ignored you or excluded you from some activities because you are Latino?	<b>.71</b>	.06	.17
3. How often has someone yelled a racial slur or racial insult at you?	<b>.60</b>	.25	.10
4. How often has someone threatened to harm you physically because you are Latino?	<b>.51</b>	.25	.13
5. How often have other kids treated you unfairly because you are Latino?	<b>.75</b>	.07	.10
6. How often has a store owner, sales clerk, or person working at a place of business treated you in a disrespectful way because you are Latino?	.23	<b>.48</b>	.11
7. How often have adults suspected you of doing something wrong because you are Latino?	.16	<b>.66</b>	.19
8. How often have the police hassled you because you are Latino?	.12	<b>.70</b>	.08
9. How often have you encountered teachers who are surprised that you, as a Latino person, did something really well?	.17	.10	<b>.98</b>
10. How often have you encountered teachers who didn't expect you to do well because you are Latino?	.15	.29	<b>.51</b>

### *Analyses Testing Specific Study Hypotheses*

*Hypothesis 1.* A negative association was hypothesized between discrimination and academic achievement. Results from the baseline model suggested that this hypothesis was supported. Latino adolescents who reported higher levels of discrimination were more likely to experience lower academic achievement ( $\beta = -.30, p < .001$ ). Thus, discrimination acted as a risk factor for lower academic achievement for Latinos in this study.

*Hypothesis 2.* A negative association was also hypothesized between discrimination and self-regulated learning efficacy. Results provided support for this hypothesis, as adolescents who reported higher levels of discrimination were more likely to report lower levels of self-regulated learning efficacy ( $\beta = -.26, p < .001$ ). Given the negative associations of discrimination with academic achievement and self-regulated learning efficacy, discrimination can be characterized as a significant risk factor for Latino adolescents. Results suggested that discrimination experiences compromised adolescent abilities to remain focused on academic endeavors and increased the potential for academic difficulties.

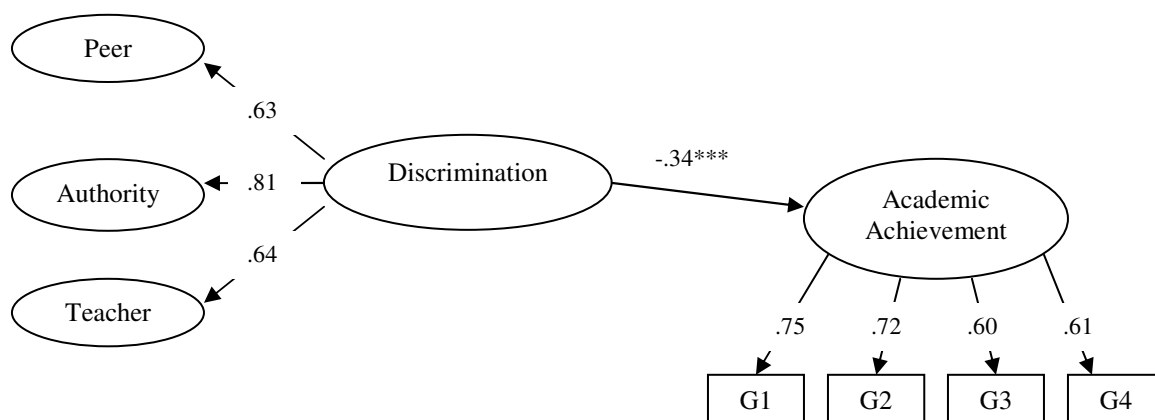
*Hypothesis 3.* The third hypothesis, that self-regulated learning efficacy would be associated positively with academic achievement, was supported by results from the baseline model. Self-regulated learning efficacy was associated positively with academic achievement ( $\beta = .18, p < .01$ ). Adolescents who reported higher levels of self-regulated learning efficacy were more likely to experience higher academic achievement. Specifically, adolescents who felt capable of acting on their environment, and felt



efficacious in their abilities to plan, organize, and structure academic endeavors were more likely to experience academic success.

*Hypothesis 4.* The potential for self-regulated learning efficacy to act as an explanatory mechanism for the association between discrimination and academic achievement was examined according to criteria put forth by MacKinnon and colleagues (2002; 2007), wherein significant associations were necessary between the predictor and mediator variable, as well as between the mediator and outcome variable. Additionally, associations between the predictor and outcome variable should be attenuated when the mediator is included in the model. Results demonstrated significant paths between discrimination and self-regulated learning efficacy, as well as between self-regulated learning efficacy and academic achievement. A model examining the association between discrimination and academic achievement without inclusion of self-regulated learning efficacy demonstrated that higher levels of discrimination were associated with lower levels of academic achievement ( $\beta = -.34, p < .001$ ; see Figure 2.). When self-regulated learning efficacy was included in the model, the association between discrimination and academic achievement was attenuated, but remained significant ( $\beta = -.30, p < .001$ ; see Figure 3). These findings satisfied the criteria necessary for mediation according to MacKinnon and colleagues, and suggested that self-regulated learning efficacy was a significant mediator in the association between discrimination and academic achievement. Self-regulated learning efficacy functioned as a partial mediator in this study, as the association between discrimination and academic achievement was not reduced to nonsignificance with inclusion of the mediator (this would have been

suggestive of complete mediation), but the association between discrimination and academic achievement was attenuated (suggestive of partial mediation). Results from Sobel test analyses provided additional support for indirect effects in the association between discrimination and academic achievement through self-regulated learning efficacy ( $z = -2.08, p < .05$ ). Taken together, mediation results suggested that self-regulated learning efficacy can be described as an indirect pathway providing an explanation for how discrimination is associated with academic achievement for Latino adolescents.



*Figure 2.* Model demonstrating direct effect of discrimination and academic achievement without self-regulated learning efficacy. CFI = .97, RMSEA = .04. \*\*\* $p < .001$ .

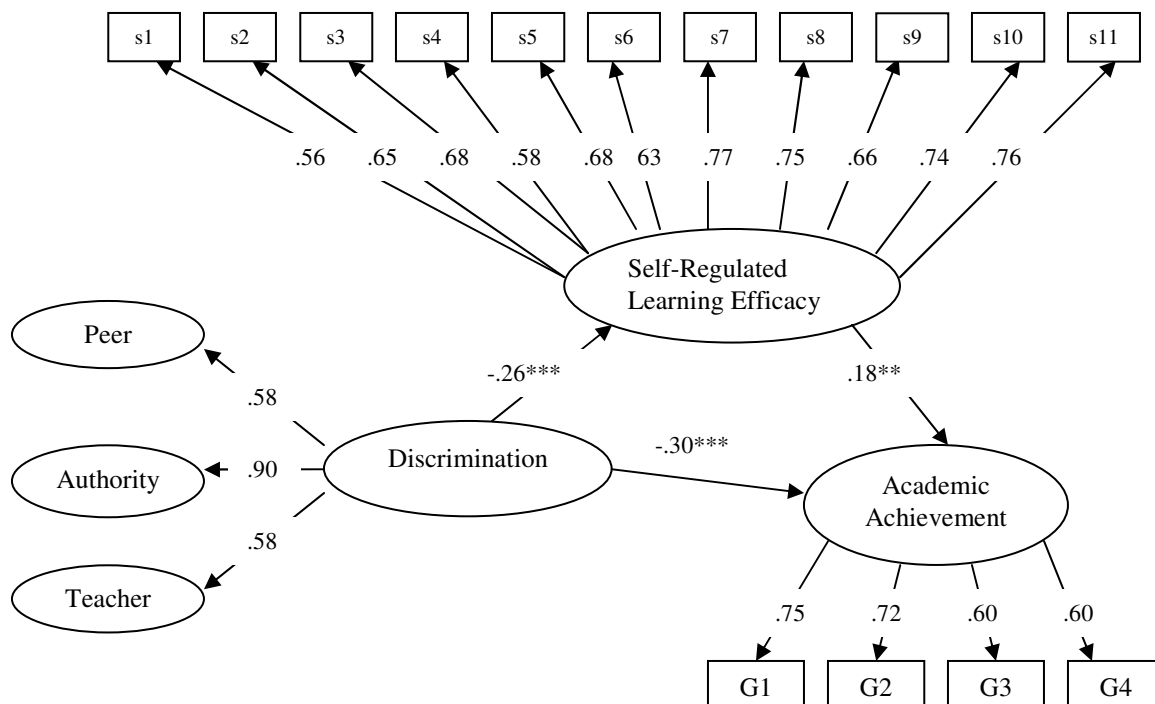


Figure 3. Model demonstrating partial mediation effect of self-regulated learning efficacy in the association between discrimination and academic achievement. CFI = .94, RMSEA = .04.  $**p < .01$ ,  $***p < .001$ .

*Hypotheses 5-8.* Product terms were used as predictors to examine potential moderator effects of parental support and monitoring. Four moderator models were examined, one with each of the four product terms added separately to models consisting of discrimination, self-regulated learning efficacy, and academic achievement variables. The first moderator model examined the interaction of discrimination with maternal support and resulted in a significant association between the product term and self-regulated learning efficacy ( $\beta = -.14$ ,  $p < .05$ ). Similarly, the interaction of discrimination with paternal support was examined in the second model and demonstrated a significant association between the product term and self-regulated learning efficacy ( $\beta = -.13$ ,  $p <$

.05). The final two moderator models examined the interaction between discrimination and maternal monitoring (third model) and the interaction between discrimination and paternal monitoring (fourth model). There were no significant moderator effects for either of these last two models, suggesting that parental monitoring did not act as a significant moderator in this study. To evaluate moderator effects further, Whisman and McClelland (2005) suggested examining moderator variables at one standard deviation above and below the mean. However, this type of grouping resulted in groups that were too small in the current study, necessitating the use of tertile splits for post-hoc moderator analyses instead. Frequencies were examined for maternal and paternal support, and three groups were created based on the upper 33.3 percent of scores ( $n = 117$  for mother data;  $n = 99$  for father data), the middle 33.3 percent of scores ( $n = 162$  for mother data;  $n = 138$  for father data), and the lower 33.3 percent of scores ( $n = 117$  for mother data;  $n = 113$  for father data). Multi-group analysis methods were then used to examine differences in associations between discrimination and self-regulated learning efficacy at low, moderate, and high levels of parental support.

Although the higher-order discrimination variable was appropriate for use in the baseline model, the use of this factor structure for multi-group analyses resulted in estimation problems. Specific problems, including negative error variances, poor model fit, and lack of model convergence, were isolated to the higher-order latent discrimination variable. Two options were then available as an alternative model for use with multiple group comparisons. One option was to use a manifest discrimination variable based on a summary score computed with all ten discrimination items. This was not a viable option

given that preliminary analyses suggested that a single-factor discrimination variable was not a good fit to the underlying data. The second option was to maintain the three-factor structure for the discrimination construct by using three separate manifest discrimination variables for multi-group analyses. This option avoided the estimation problems with a higher-order latent variable, but was consistent with results from preliminary analyses that suggested the need for a three-factor structure. Thus, post-hoc examination of parenting moderator effects were completed using multiple group analyses with a model including three manifest indicators of discrimination from peers, authority figures, and teachers. This model demonstrated a good fit to the underlying data with identical fit statistics for both mother and father data (CFI = .93; RMSEA = .03).

The first post-hoc moderator model examined the moderating effect of maternal support in the association between discrimination and self-regulated learning efficacy. Structural paths from all three manifest discrimination variables leading to self-regulated learning efficacy were examined. Although examination of critical ratios ( $z > 1.96$ ) comparing path coefficients did not suggest significant differences, results were suggestive of differences in the association between authority discrimination and self-regulated learning efficacy. Findings were contrary to hypotheses and demonstrated that authority discrimination was associated negatively with self-regulated learning efficacy at moderate ( $B = -.27, p < .05$ ) and high ( $B = -.38, p < .05$ ) levels of maternal support. At low levels of maternal support this association was marginal ( $B = -.22, p = .05$ ). The second post-hoc moderator model examined the moderating effect of paternal support in the association between discrimination and self-regulated learning efficacy. Similar to

results with maternal support, multi-group differences for paternal support emerged in the association between authority discrimination and self-regulated learning efficacy. Critical ratios did not demonstrate significant differences in path coefficients, but results suggested a negative association between authority discrimination and self-regulated learning efficacy for moderate ( $B = -.18, p < .05$ ) and high ( $B = -.48, p < .05$ ) levels of paternal support. At low levels of paternal support this association was not significant ( $B = -.21, p = .09$ ). These findings suggested that parental support did not provide protection for Latino adolescents from the deleterious effects of discrimination exposure, but instead exacerbated the potential for adolescents to experience negative outcomes associated with discrimination from authority figures. Given that significant differences were not found in path coefficients through examination of critical ratios, these findings require replication and should be interpreted with caution.

*Hypothesis 9.* Gender differences could not be examined using a model containing a higher-order latent discrimination variable due to estimation difficulties similar to those that emerged with post-hoc parenting moderator analyses. The specific problem was isolated to a negative error variance that emerged on the disturbance term for authority discrimination. Accordingly, gender differences were examined in a model with three manifest discrimination variables, similar to the model used for post-hoc parenting moderator analyses. Multi-group gender analyses were completed in two steps. An omnibus comparison test was conducted first, which examined the potential for gender differences in structural paths from manifest discrimination variables to self-regulated learning efficacy and academic achievement. Starting with a fully constrained model,

constraints then were removed from six structural paths. Three structural paths represented associations between manifest discrimination variables and self-regulated learning efficacy, and the remaining three structural paths represented associations between manifest discrimination variables and academic achievement. Results from the omnibus test demonstrated a significant change in chi-square comparing the same model for male and female adolescents [ $\Delta\chi^2(6, N = 399) = 18.55, p < .01$ ]. A significant difference in the omnibus test suggested that at least one structural path within the model differed for male and female adolescents.

The second step in multi-group gender analyses determined the exact location of gender differences within the model. Critical ratios testing for significant differences in path coefficients across gender groups were examined and critical ratios higher than 1.96 suggested gender differences. The first gender difference was in the association between peer discrimination and academic achievement ( $z = 3.19$ ). This association was negative for girls ( $B = -.60, p < .05$ ), but not significant for boys ( $B = .48, p = .06$ ). This finding suggested that female adolescents were more vulnerable to the negative effects of discrimination from peers such that they were more likely to experience lower academic achievement compared to boys. The second gender difference was in the association between authority discrimination and academic achievement ( $z = -2.11$ ). This association was negative for boys ( $B = -.64, p < .01$ ), but not significant for girls ( $B = -.09, p = .58$ ). Contrary to the finding for peer discrimination, boys were more vulnerable to lower academic achievement associated with higher levels of discrimination from authority figures compared to girls. Taken together, results from gender analyses provided partial

support for the hypothesis that female adolescents would be more vulnerable to negative outcomes associated with discrimination experiences. Results suggested that girls were more vulnerable with respect to lower academic achievement associated with peer discrimination, but male adolescents were more vulnerable to the experience of lower academic achievement associated with discrimination from authority figures.

#### *Impact of Selection Effects and Method Bias*

To examine the potential impact of selection effects on statistical conclusion validity, frequencies of responses were examined for each item within study variables. Frequencies demonstrating restricted range of scores would suggest that extraneous variables might have been responsible for uncharacteristically low or high scores on study variables and thus the introduction of bias into study results. There was no evidence of scores clustering at either the low or high range of scores, and scores did not appear to be clustered around the means. This suggested that study variables were not affected by restricted range of scores and that selection effects likely did not impact statistical conclusion validity of study results. Results from this study were also compared to those from a similar study of associations among discrimination, parenting, and academic outcomes as a means of assessing construct validity in the current study (DeGarmo & Martinez, 2006). Results were similar across studies, such that discrimination was associated negatively with academic outcomes and parental support in both studies. Although based on a comparison with limited existing research, similar findings across studies decreases the likelihood that selection effects impacted construct validity in the current study. Correlated uniqueness models were used to examine the potential effects of



shared method bias on associations among discrimination, self-regulated learning efficacy, and parenting behaviors. A large amount of covariation between error terms of constructs with similar methods would suggest a plausible threat to construct validity and parameter estimates between constructs would likely be inflated. Error variances were correlated at the item level for comparison across constructs of discrimination, self-regulated learning efficacy, and parenting (see Table 3). Results from these comparisons demonstrated correlations ranging from .00 to .36. All correlated error variances could be described as small to moderate, suggesting that there was little, if any, correlated method bias among study variables. This suggested that associations between constructs were likely related to trait variance and not confounded by method bias.

Table 3

*Correlated Error Variances for Discrimination and Self-Regulated Learning Efficacy*

	SRLE 1	SRLE 2	SRLE 3	SRLE 4	SRLE 5	SRLE 6	SRLE 7	SRLE 8	SRLE 9	SRLE 10	SRLE 11
Discrim 1	.15	-.14	.04	.00	-.06	-.01	-.03	.04	-.09	-.06	.04
Discrim 2	-.03	.06	.14	.02	.17	.13	.14	-.04	.01	.21	-.03
Discrim 3	-.07	-.05	.04	-.08	-.02	.06	-.11	.02	.03	-.01	.07
Discrim 4	-.12	.03	-.08	-.04	.07	-.12	.05	-.14	.06	.03	-.03
Discrim 5	.08	.08	-.03	.03	.05	-.05	-.02	.10	.09	-.07	-.05
Discrim 6	.11	.04	-.05	.05	.11	-.03	.07	.06	.08	.11	.07
Discrim 7	-.12	-.15	-.16	-.13	-.20	-.10	-.12	-.01	-.27	-.12	-.11
Discrim 8	-.08	.01	-.17	-.06	-.11	-.11	-.06	-.20	-.15	-.16	.09
Discrim 9	.09	.11	.23	.11	.14	.21	.18	.19	.14	.10	.08
Discrim 10	-.04	.03	.09	.04	.06	-.05	.15	.09	-.03	.16	.06

*Note.* Discrim = discrimination, SRLE = self-regulated learning efficacy.

## CHAPTER VI

### DISCUSSION

Although previous research has demonstrated discrimination as a risk factor for a host of negative outcomes, the majority of this research has focused on African American youth and families, with limited focus on Latino samples. The current study contributes to existing research on the association between discrimination and academic achievement for Latino adolescents by taking a process-oriented approach. The overarching hypothesis for this study was that discrimination would function as a risk factor for academic difficulties among Latino adolescents. Specifically, discrimination was hypothesized to be associated negatively with self-regulated learning efficacy and academic achievement. Self-regulated learning efficacy was hypothesized to be associated positively with academic achievement and was also examined as a generative mechanism for the association between discrimination and academic achievement. Parental support and monitoring were examined as protective factors in moderating analyses, and adolescent gender was examined as a vulnerability factor.

This chapter includes discussion of study findings, as well as suggestions for future research, and is presented in six parts. The first section discusses discrimination as a risk factor and chronic stressor for Latino adolescents. The next section focuses on self-regulated learning efficacy as a generative mechanism, followed by a discussion of parenting moderator effects. The fourth section pertains to gender differences, and the

fifth section includes study limitations and suggestions for future research. The final section provides concluding comments.

#### *Discrimination as a Risk Factor and Chronic Stressor*

Prejudicial treatment is likely present in the lives of all ethnic minority adolescents to some degree, placing these individuals at risk for a variety of negative developmental outcomes. Even though all adolescents might not experience discrimination in the same manner and might not react to these experiences in the same way, results from the current study demonstrate that differential treatment based on ethnicity acts as a significant risk factor among minority adolescents. Given that it is not possible to ameliorate discrimination experiences for minority adolescents, research highlighting specific adolescent outcomes that are affected by discrimination exposure provides valuable information for parents, teachers, and program administrators charged with the task of facilitating positive outcomes for these adolescents. The current study focused on academic endeavors, with specific attention to overall academic achievement, and the degree to which adolescents were able to remain motivated, organized, and on-task with their academic requirements. Based on negative associations between discrimination and self-regulated learning efficacy, as well as between discrimination and academic achievement, findings provide support for the central hypothesis demonstrating that discrimination functions as a significant risk factor for lower self-regulated learning efficacy and academic achievement. In this manner, discrimination places Latino adolescents at a disadvantage wherein they experience increased risk for academic difficulties and less confidence in their abilities to complete academic tasks.

Characterizing discrimination experiences as chronic stressors provides one potential explanation for why prejudicial treatment might function as a risk factor for academic difficulties. To be characterized as chronic stressors, stimuli must be present on a consistent basis and place excessive physical or psychological demands on individuals above and beyond normative daily life stressors. Participants of this study who reported frequent discriminatory behavior from peers, authority figures, and teachers likely were describing chronic discrimination experiences that occurred on a regular basis and not acute discrimination experiences occurring at one specific time. Although stress levels and psychological demands were not assessed specifically in this study, heightened stress can be inferred from adolescent reports of lower self-regulated learning efficacy and lower academic achievement associated with discrimination exposure. Adolescence is a time when minority individuals are paying closer attention to their ethnic identity and beginning to understand more about how their ethnic group membership is interpreted by others. Thus, prejudicial treatment based on ethnicity can be especially troublesome for minority adolescents and discrimination experiences might be interpreted as personal attacks on adolescent identities. Negative internal representations of discrimination experiences could provide one explanation for why discrimination exposure is stressful and taxing for Latino adolescents. Results from this study suggest that discrimination experiences are stressful for Latinos, hinder their abilities to remain focused on academic endeavors, and limit the potential for academic success. These findings point to a specific concern for Latino adolescents with respect to academic achievement and discrimination exposure.

Academic achievement during adolescence is crucial, as academic success or failure during adolescence is associated with similar success or failure in future academic and occupational endeavors (Roisman et al., 2004). If ethnic minority adolescents experience heightened risk potential for academic difficulties due to discrimination exposure, these individuals not only experience risk for negative outcomes during adolescence, but are also at risk for restricted academic and occupational opportunities during adulthood as well. Based on a risk and resilience theoretical perspective, Latino adolescents would benefit most from research that elucidates the process by which discrimination is associated with academic outcomes. Armed with this type of knowledge, parents, teachers, and program administrators can work towards the goal of crafting academic resilience by buffering minority adolescents from the harmful processes associated with discrimination exposure.

*Self-Regulated Learning Efficacy as a Generative Mechanism*

Self-regulated learning efficacy (the ability to regulate learning through planning, organizing, and focusing on academic tasks) was examined as a potential generative mechanism in the association between discrimination and academic achievement in this study. To function as a generative mechanism, self-regulated learning efficacy must act as a significant mediator that explains how adolescents who experience higher levels of discrimination are at risk for lower academic achievement. Results demonstrate that Latino adolescents who report higher levels of discrimination exposure are more likely to report lower self-regulated learning efficacy, and adolescents who report lower self-regulated learning efficacy are more likely to experience lower academic achievement.

When discrimination experiences hinder abilities to remain motivated, organized, and resourceful with respect to academic responsibilities, adolescents are more likely to experience academic difficulties. Thus, self-regulated learning efficacy acts as a mechanism explaining how discrimination exposure increases the risk potential for lower academic achievement among adolescents in this study. One interpretation of these mediation results is that adolescents might view chronic discrimination experiences as stressful, create negative internal representations of these experiences, and start believing that they are not capable of achieving success in academic endeavors (Ogbu, 1991). Adolescents who report lower self-regulated learning efficacy as a result of these negative representations are then less likely to possess the emotional abilities to persevere through academic difficulties to experience academic achievement. Based on these findings, parents, teachers, and program administrators charged with the task of promoting academic success for Latino adolescents might benefit from focusing on ways to preserve self-regulated learning efficacy despite continuous exposure to chronic stressors such as discrimination. When adolescents are able to remain motivated, focused, and organized with respect to academic endeavors, they are more likely to experience academic success compared to adolescents who report lower self-regulated learning efficacy.

One manner in which self-regulated learning efficacy might be preserved is by teaching adolescents to engage in appropriate coping strategies during times of stress. Although coping strategies were not examined directly in the current study, discrimination exposure might compromise adolescent abilities to attend actively to

chronic stressors, thereby inhibiting abilities to engage in functional coping strategies (Colomba et al., 1999). Latino adolescents who report lower self-regulated learning efficacy associated with discrimination experiences might lack the ability to cope with discrimination exposure in an adaptive manner. Instead of redirecting their focus to something productive, such as academic endeavors, these adolescents remain focused on discrimination experiences. Ruminating over discrimination encounters then increases the propensity for adolescents to report feelings of lower efficacy in daily activities, including academic endeavors, and ultimately predisposes adolescents to lower academic achievement. Direct measures of coping responses in future research will allow for a deeper understanding of the process by which discrimination is associated with academic outcomes for minority adolescents, including a more in-depth understanding of how self-regulated learning efficacy functions as a generative mechanism. Given that it is not possible to remove discrimination experiences from the lives of ethnic minority individuals (Fisher et al., 2000), teaching adolescents how to cope effectively with stressful discrimination experiences might bolster their self-regulated learning efficacy and promote higher academic achievement.

The inclusion of a generative mechanism variable in this study serves as an example of process-oriented research that moves beyond examining only direct associations among variables. Examining the process underlying relationships among variables can produce results with a deeper understanding of the covariance among study variables. Future research examining discrimination and adolescent outcomes should continue to include process-oriented models and would benefit from exploring other



potential pathways through which discrimination might be associated with academic achievement for ethnic minority adolescents. Previous research with Latino youth and adults has demonstrated that discrimination is associated with higher depression, increased aggression, and elevated stress levels (Araujo & Borrell, 2006; Greene et al., 2006; Smokowski & Bacallao, 2006). Furthermore, adolescents (Latino and non-Latino) who report higher levels of stress and depression, as well as those who display more externalizing behaviors, are more likely to experience lower academic achievement (Alva & Reyes, 1999; Barriga et al., 2002; Crean, 2004). Consistent with previous research, mental health outcomes and problem behaviors should be considered as alternative pathways through which discrimination might be associated with academic achievement for minority adolescents. Ethnic minority individuals at risk for academic difficulties associated with discrimination experiences can be helped most effectively by research that continues to explain how discrimination risk translates to academic difficulties. Identification of significant generative mechanisms highlights factors that can be targeted to facilitate protection for minority adolescents.

#### *Parenting Moderator Effects*

Consistent with a risk and resilience framework, one goal of this study was to determine the capacity for parental support and monitoring to buffer adolescents from the harmful effects of discrimination exposure, affording some adolescents the experience of academic resilience despite prejudicial treatment. For parental support and monitoring to provide protection in this study, the negative association between discrimination and self-regulated learning efficacy, as well as between discrimination and academic achievement,

should have been attenuated for adolescents who experienced higher levels of these parental behaviors. Instead, results demonstrate that maternal and paternal support exacerbated the deleterious effects of discrimination exposure for self-regulated learning efficacy. In order to examine these findings further, post-hoc moderator analyses were completed using a model with three manifest discrimination variables (due to estimation problems with the higher order latent discrimination variable). Thus, it was possible to examine whether the association of discrimination from peers, authority figures, or teachers, in conjunction with self-regulated learning efficacy, was responsible for parenting moderator effects.

Post-hoc moderator results demonstrate that the specific location of moderator effects is in the association between authority discrimination and self-regulated learning efficacy. It is important to note that significant differences (based on critical ratios  $> 1.96$ ) were not detected between path coefficients for low, moderate, and high groups of parent support in the association between authority discrimination and self-regulated learning efficacy. Thus, although post-hoc findings suggest that authority discrimination is a stronger risk factor for lower self-regulated learning efficacy when adolescents experience more support from mothers or fathers, these results require replication and should be interpreted with caution. Previous research on youth perceptions of social mobility and discrimination exposure provides some insight into these unexpected findings. According to Ogbu (1991), some minority adolescents develop negative internal attributions about chronic discrimination experiences and believe that social inequalities will hinder attempts at academic success. Pertaining to the current study, repeated

discrimination from authority figures might be interpreted as an indicator of social inequality, increasing stress levels for adolescents, and increasing the potential for lower self-regulated learning efficacy. Results from this study suggest that parental support is not effective in alleviating adolescent concerns over institutional discrimination and that parental displays of love, acceptance, and availability are not enough to convince adolescents to focus on academic endeavors despite prejudicial treatment.

Given that parental support did not act as a protective factor for discrimination exposure in this study, future research should examine other constructs that might provide protection from the deleterious effects of discrimination and promote academic resilience. Parent-adolescent relationships that provide adolescents with consistent displays of love and affection are adaptive in many ways, but when parents do not also focus attention on how adolescents are affected by discrimination outside the family environment the risk potential for current and future negative outcomes is heightened. Future research examining associations among discrimination and academic endeavors should include measures of ethnic socialization as potential moderators that buffer adolescents from the deleterious effects of discrimination exposure. Adolescents who engage in consistent discussions with parents and other family members about how their ethnic minority group is perceived by outsiders, and adolescents who are provided with suggestions of appropriate ways to cope with discrimination encounters might be more likely to experience positive developmental outcomes. Additionally, ethnic socialization might allow adolescents to develop a more positive sense of ethnic group pride, and increase the potential for a variety of positive outcomes, including academic achievement

(Smith, Atkins, & Connell, 2003). Unfortunately, previous research examining ethnic socialization among ethnic minority adolescents has produced contradictory results (Hughes, Rodriguez, Smith, Johnson, Stevenson, & Spicer, 2006). Some studies suggest that adolescents whose parents provide education about their ethnic minority group and promote a sense of ethnic pride within the family environment are more likely to experience positive mental health outcomes (Constantine & Blackmon, 2002). However, other studies suggest that ethnic socialization, including preparation for differential treatment, is associated with negative developmental outcomes (Marshall, 1995; Smith et al., 2003). Despite contradictory findings among previous research, ethnic socialization remains an important construct to examine in discrimination research. Whether ethnic socialization acts as a protective or vulnerability factor in associations between discrimination and academic achievement should be examined in future research.

Future research should also examine adolescent ethnic identity as a potential protective factor for the association between discrimination and self-regulated learning efficacy, as well as between discrimination and academic achievement. Research completed by Greene and colleagues (2006) demonstrated that peer discrimination was more detrimental for self-esteem among minority adolescents who were still exploring their ethnic identity and who had not yet made an emotional commitment to their ethnic group. Similarly, the negative association between discrimination and academic outcomes was reduced for adolescents who reported a more positive connection to their ethnic minority group (Wong et al., 2003). Latino adolescents who report a strong understanding of their ethnic group membership, and who describe their ethnic group

favorably, can be described as possessing a positive sense of ethnic identity (Supple, Ghazarian, Frabutt, Plunkett, & Sands, 2006). Adolescents who are comfortable with their ethnic identity might be more capable of coping with discrimination experiences in an adaptive manner if they feel discrimination does not pose a specific threat to their sense of pride and identity. These individuals might then demonstrate better abilities to maintain high self-regulated learning efficacy and experience academic success despite adverse discrimination exposure. In this manner, ethnic identity would act as a protective factor reducing the risk for adverse academic outcomes associated with discrimination experiences. However, adolescents who are less comfortable with their ethnic identity might feel threatened by discrimination experiences and interpret them as personal attacks. These individuals are then more likely to demonstrate lower self-regulated learning efficacy and lower academic achievement. Although previous research demonstrated ethnic identity as a significant moderator of associations between discrimination and various developmental outcomes, the majority of this research has been completed with African American, Puerto Rican, Dominican American, and Asian American adolescents. These moderator effects have not been examined with Mexican American adolescents, the most common ethnic subgroup of the U.S. Latino population (Ramirez & Cruz, 2002). Thus, one potentially promising area for future research would be an examination of adolescent ethnic identity as a moderator of associations among discrimination and academic endeavors with Mexican American samples.

Another suggestion for future research is inclusion of moderators that are either stressor-specific or outcome-specific. Parental support and monitoring can be considered

generalized moderators that provide protection from a variety of risk factors. However, ethnic identity and parent ethnic socialization can be considered stressor-specific moderators for the risk factor of discrimination in associations with academic achievement. If discrimination experiences are characterized as prejudicial treatment based on ethnicity, then the manner in which adolescents perceive and respond to such discrimination experiences might be dependent on how comfortable they are with their ethnic group membership. In this manner, ethnic identity and parent ethnic socialization could function as stressor-specific moderators in the association between discrimination and academic achievement. Pertaining to outcome-specific moderators, parent involvement or support in academic endeavors could be examined as potential outcome-specific moderators in the association between discrimination and academic achievement. Adolescent perceptions of how involved parents are in academic endeavors, how much instrumental support parents provide for academic tasks, and how often parents attend school events might act as significant moderators in the association between adolescent perceptions of discrimination experiences and academic achievement. Thus, future research could benefit from inclusion of moderators that are either stressor-specific or outcome-specific to increase the potential of providing explanations for why some adolescents experience academic difficulties associated with discrimination but others experience academic success despite adverse discrimination exposure.

### *Gender Differences*

Results pertaining to gender differences provide partial support for study hypotheses. I anticipated that female adolescents in this study would be more vulnerable

to the negative effects of discrimination exposure such that the negative association between discrimination and self-regulated learning efficacy, as well as the negative association between discrimination and academic achievement would be stronger for girls. Estimation problems in gender analyses necessitated the use of a model with three manifest discrimination variables. This allowed for examination of how discrimination from different domains is associated with self-regulated learning efficacy and academic achievement differently for male and female adolescents. Results suggest that both female and male Latinos are vulnerable to lower academic achievement associated with discrimination experiences, but peer discrimination seems most salient for females and authority discrimination most salient for males. Specifically, results demonstrate that discrimination from peers is associated with lower academic achievement for female adolescents, suggesting that girls are more vulnerable to academic difficulties when they encounter repeated discrimination from peers. Male adolescents who report higher levels of discrimination from store clerks, business owners, and law enforcement persons are more likely to experience lower academic achievement, suggesting that male Latinos are more vulnerable to academic difficulties when they experience high levels of prejudicial treatment from authority figures.

One explanation for why peer discrimination might function as a risk factor for lower academic achievement among female adolescents is found in the literature on relational aggression. Defined as any type of direct or indirect peer behavior with the goal of damaging social reputations and inflicting social harm, relational aggression can be detrimental to a variety of adolescent outcomes. Some examples of relational aggression

are ostracism from peer groupings, harmful gossip, and maintaining social relationships under false pretenses (Putallaz, Grimes, Foster, Kupersmidt, Coie, & Dearing, 2007). Previous research suggests that relational aggression is associated with depression, social avoidance, disruptive behaviors, lower academic achievement, lower self-esteem, and decreased abilities to resolve conflicts (Graham, Bellmore, & Juvonen, 2003; Nishina, Juvonen, & Witkow, 2005; Putallaz et al.). Although some research has demonstrated relational aggression to be harmful for both boys and girls (Tomada & Schneider, 1997; Underwood, 2003), a majority of research on this topic has demonstrated that boys are more affected by physical aggression from peers and girls are more affected by relational aggression (Crick & Grotpeter, 1995; Putallaz et al.). One reason relational aggression might be more salient for females is that female adolescents rely more on peers for emotional support, and report higher levels of interpersonal conflicts in intimate relationships compared to adolescent males who are less concerned with interpersonal relations (Rudolph, 2002). Being insulted and ignored or excluded by peers might damage girls' abilities to have positive peer relationships, which might then lead to an increased likelihood for negative outcomes, including lower academic achievement.

Although results suggest that peer discrimination does not affect academic endeavors negatively for male Latinos, findings demonstrate that discrimination from authority figures does act as a risk factor for academic difficulties in this group of ethnic minority boys. Gendered cultural expectations and the manner in which adolescents respond to discrimination provide one interpretation for these findings. According to Suárez-Orozco (2004), minority adolescents react to negative outside perceptions of their



ethnicity either by resigning, ignoring, or attempting to dispel negative messages. Latino boys might resign to discrimination from authority figures, enact a stress response, and thus increase the likelihood of lower academic achievement if they feel that discriminatory messages from authority figures undermines efforts to adhere to cultural expectations. Latino culture expects boys to begin taking on leadership roles within the family and community as they enter adolescence (Raffaelli & Ontai, 2004). If boys are learning how to conduct themselves in a manner that is consistent with cultural expectations for leadership within the community, but are repeatedly faced with discrimination from store clerks, business owners, and law enforcement officials, Latino males might feel that discriminatory messages from authority figures undermines their leadership efforts. These adolescents might then feel defeated and simply resign to discrimination experiences if leadership efforts appear futile. Unable to cope effectively with discrimination experiences from authority figures, a variety of developmental outcomes, including academic endeavors, might then be affected negatively for Latino males.

The different manners in which girls and boys are socialized within Latino culture might be responsible for why authority discrimination is a risk factor only for boys. Adolescent girls are expected to act in a manner that is appropriate for traditional feminine Latino culture, including active participation in household chores, and are not encouraged to take on leadership roles in the community in the same manner as Latino boys (Raffaelli & Ontai, 2004). Thus, authority discrimination might not seem as disruptive to female Latino adolescents compared to their male counterparts. Future

research would benefit from studies that take a closer look at how Latino cultural expectations are associated with discrimination experiences for boys and girls separately. One suggestion for this type of research is a combined research design of quantitative and qualitative methodologies. Qualitative methods might be more effective at elucidating the salient aspects of Latino culture and adolescent expectations that are associated with developmental outcomes. Quantitative methods could then be used to examine specific associations among cultural dynamics, discrimination experiences, coping strategies, and developmental outcomes for Latino boys and girls.

Given that minimal research has examined gender differences in discrimination experiences for Latino adolescents, future research should continue to explore these associations. Both qualitative and quantitative research is needed to expand this knowledge base. Qualitative research can provide rich information on whether boys and girls view discrimination experiences in the same manner and how gendered cultural expectations affect adolescent reactions to discrimination experiences from peers, authority figures, and teachers. Follow-up studies, employing both qualitative and quantitative methods could then examine the processes that might be responsible for how discrimination experiences are associated with academic outcomes differentially for male and female adolescents. Quantitative studies can then test for specific mediators that might function as generative mechanisms explaining the different associations between discrimination and academic endeavors for male and female Latino adolescents.

### *Limitations and Suggestions for Future Research*

Results from the current study contribute to existing research and provide insight into how discrimination experiences affect academic endeavors for Latino adolescents. However, the design of this study also includes several limitations that highlight aspects of discrimination research that should be addressed in future research. A cross-sectional design arguably is appropriate for examining associations among variables and with samples of populations that have not received ample attention within social science research. In general, it would not be prudent to engage in prospective research until enough information has been obtained through cross-sectional research to delineate how study variables relate to one another at a single point in time. Given that minimal research has examined the effects of discrimination on academic outcomes for Latino adolescents, a cross-sectional design is appropriate to gain an initial understanding of the covariance among study variables. However, a cross-sectional design does not allow for conclusions to be drawn about causality or direction of effects. Additionally, cross-sectional data cannot elucidate whether discrimination imparts greater or lesser impact on developmental stages of adolescence over time. Results from this type of research can only infer bidirectional contemporaneous associations among variables. Thus, results of the current study cannot determine whether discrimination exposure causes lower self-regulated learning efficacy and academic difficulties or if the effects are reversed. For example, some adolescents who are not doing well in school might exhibit externalizing behaviors that promote prejudicial treatment, and thus academic difficulties actually might be responsible for adolescent encounters with discrimination. Prospective research

designs allow for results that can suggest causality and direction of effects, but cross-sectional discrimination research also remains necessary to broaden the scope of information available within the field of research with ethnic minority families.

Taking a more specific look at the manner in which discrimination was measured in this study, a 10 item discrimination measure assessed discrimination from peers, authority figures, and teachers. This measure did not function adequately as a single-factor measure, but instead was best represented by a three-factor higher-order structure. Due to estimation difficulties in moderator analyses, three separate discrimination variables were used for post-hoc analyses considering moderating effects of parenting behaviors and adolescent gender instead of the higher-order latent variable. Separation of the three discrimination variables allowed for results highlighting the most salient domain of discrimination for male and female adolescents, as well as for adolescents who reported different levels of parental support. Future research would benefit from continued examination of the multidimensionality of discrimination in associations with adolescent outcomes. Gender moderation results from the current study highlight the different manners in which peers, authority figures, and teachers influence minority adolescents with respect to discrimination and associated outcomes. Future research should continue to examine the differential influences placed upon minority adolescents from the various environments and domains in which they participate on a consistent basis.

Pertaining to discrimination from peers, adolescence is a time when youth begin spending larger amounts of time with peers and the opinions and suggestions of peers

increasingly become important. Thus, the impact of discrimination from peers on adolescent outcomes should be examined. Previous research demonstrates that peer discrimination functions as a risk factor for higher levels of depression and lower self-esteem (Greene et al., 2006). Thus, future research should examine how peer discrimination affects adolescent self-esteem, self-efficacy, academic endeavors, and mental health. Regarding teacher discrimination, the school environment is designed as a place for students to learn, thrive, and grow. Ethnic minority adolescents who experience discrimination from their teachers are less likely to feel safe in the school environment and less likely to succeed in academic endeavors. Discrimination from teachers might also function as a self-fulfilling prophecy for adolescents, wherein discrimination from teachers counteracts inherent academic potential. Ethnic minority adolescents who possess abilities to succeed in academics and who demonstrate high levels of academic motivation might start believing they are not capable of academic success after continuous exposure to discrimination from teachers (Farkas, Grobe, Sheehan, & Shuan, 1990). These adolescents might then report lower self-regulated learning efficacy and demonstrate lower academic achievement. Future research should examine the impact of a self-fulfilling prophecy in associations among teacher discrimination, adolescent self-efficacy, and academic endeavors. Furthermore, the measure of teacher discrimination should include more than two items to capture a larger array of discrimination experiences from teachers beyond what was assessed in the current study. The two items assessing teacher discrimination in this study asked participants about whether teachers were surprised at student abilities to complete a task well given their ethnicity, and

whether participants felt that teachers had low expectations for student performance due to their ethnicity. These two items do not ask adolescents about statements from teachers that might have been insulting, and also do not assess whether teachers displayed any specific differential treatment towards minority students due to their ethnicity. Future research would benefit from a more comprehensive measure of teacher discrimination to provide more specific information about adolescent discrimination experiences in the school environment.

*Suggestions for prospective research.* Adolescence is a time of many changes for individuals biologically, socially, and cognitively. But for ethnic minority individuals, this is also a time of increased devotion and attention to ethnic identity matters. Adolescents begin thinking about what type of involvement and association they want to have with their ethnic minority group (French, Seidman, Allen, & Aber, 2006). By the end of adolescence and beginning of adulthood, ethnic minority individuals have evolved into persons with beliefs, morals, and traditions that might be very similar or different from their family and larger ethnic minority group. Given the numerous social, cognitive, and physical changes that occur during adolescence for ethnic minority individuals, prospective research assessing discrimination influences on adolescent outcomes over time can be informative. Perceptions of discrimination experiences might change over the course of development, such that these experiences might be perceived as more or less stressful. Changes in perceptions, coping, and reactions to discrimination stress over time could be attributed to an evolving sense of adolescent ethnic identity, changes in coping strategies as adolescents gain additional experiences and maturity, or changes in support

structures as parent-adolescent and peer relationships exert different amounts of influence on adolescent decisions. Additionally, although some minority students might attend schools characterized by a large presence of their ethnic minority group, other students might experience more ethnic diversity such that peer groups are more heterogeneous with respect to ethnicity. Minority students who experience ethnic heterogeneity in the school and peer domains could be exposed to more discrimination and thus might emerge from adolescence with different interpretations of prejudicial treatment compared to minority students who have less discrimination experience due to more homogenous academic and peer environments (French et al.). Future research should examine the impact of discrimination on academic achievement, and other salient adolescent outcomes prospectively and should take into consideration the potential effects of evolving parent-adolescent relationships, ethnic identity, and degree of ethnic diversity in academic and peer domains to gain a better understanding of how perceptions of discrimination experiences, reactions to discrimination experiences, and associations with specific outcomes change over time.

*Additional suggestions.* The sample for this study was drawn from one high school in Los Angeles, California, and thus the potential exists for biased results due to selection effects. After examination of frequencies for all study variables, and comparison of study results with previous research, I can conclude that the results of this study likely were not biased by selection effects. However, future research would benefit from examining associations among discrimination, self-regulated learning efficacy, and academic achievement with samples of Latino adolescents from other schools in the

United States. Obtaining samples of Latinos from various data collection sites would increase the generalizability of study results and allow for examination of whether adolescent perceptions of discrimination differ based on region of the country, community resources, neighborhood influences, and school environment. Although the single data collection site used for the current study was appropriate considering time and financial constraints, data from multiple sites would result in larger sample sizes, and opportunities to examine how environmental influences might impact reactions to discrimination experiences differently for adolescents residing in different parts of the country.

All the measures used in this study, except academic achievement, were obtained through youth self-report. Participants responded to questionnaire items providing adolescent report of discrimination experiences, self-regulated learning efficacy, level of parental support, and the degree to which parents monitored adolescent behaviors. Academic achievement was obtained from participant end of year grades through school record data. Although shared method bias was a concern in this study, results from correlated uniqueness models suggest that associations between study variables are likely due to trait variance and not inflated by method bias. However, future research would benefit from inclusion of additional variables measured by other informants. Discrimination could be measured by observer report, but this type of assessment would generate a different type of data. Adolescent report of discrimination experiences provides data on individual perceptions of their own prejudicial experiences, whereas observer reports of discrimination would be void of any such perceptions. Adolescent



self-report of discrimination experiences was appropriate for the current study to capture variation that might exist in perceptions of discrimination encounters. One experience of prejudicial treatment might seem highly discriminatory for some adolescents, whereas the same experience has little or no effect on others. Although adolescent report of discrimination was appropriate for use in the current study, future research might examine the utility of outside reports of discrimination experiences. One example of this type of research might be found in the school environment where observers collect data on the amount of differential treatment displayed by teachers in classroom settings. Teacher discrimination might then be examined in association with student reports of academic motivation, as well as end of year grades for students. This type of study would be similar to examining the self-fulfilling prophecy wherein students who are discriminated against (knowing or unknowingly) by teachers might feel they are incapable of achieving success in the classroom, report lower academic motivation, and demonstrate lower academic achievement. The use of observer report of discrimination in this type of study would remove the potential for method bias completely, as each variable would be assessed by a different reporter. Future research might also include teacher reports of student work habits, parent reports of monitoring behaviors, or census data for neighborhood and community characteristics. Although results from correlated uniqueness models suggest that the current study was not likely affected by method bias, future research might benefit from the use of multiple informants for study variables to ensure that trait variance is responsible for associations among study variables and that method bias does not confound results.

### *Conclusion*

Discrimination was demonstrated as a significant risk factor and chronic stressor for Latino adolescents in the current study. Given that previous discrimination research has focused mostly on African American samples, the current study makes a contribution to existing research and highlights some potential explanations for academic difficulties typically experienced by Latino adolescents. Results from this study suggest that discrimination experiences are associated with heightened risk for lower self-regulated learning efficacy and academic achievement. Parental support and monitoring did not serve as significant buffers for these negative effects, and thus research must continue to search for effective protective factors to promote resilience for Latino adolescents exposed to high levels of discrimination. Previous research suggests that ethnic identity and family ethnic socialization might serve as protective factors in associations between discrimination and adolescent academic endeavors. Given the importance of academic achievement during adolescence and the association with future academic and occupational endeavors, research should continue searching for protective factors that can promote academic resilience for ethnic minority individuals during times of stress and adversity.

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