

Perceived Group Discrimination and Problem Behavior:  
The Moderating Role of Traditional Cultural Values and  
Familial Relationships in Mexican American Adolescents

by

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## ABSTRACT

A theme in the life experiences of ethnic minority adolescents is the perception of discrimination and its concomitant challenges. Although existing literature has examined the perception of discrimination in adolescents, little research has examined how the cultural and familial setting may heighten or alleviate the impact of perceived discrimination on psychological outcomes in Latino youth. The current study investigated how traditional cultural values and parent-adolescent relationships prospectively interact with perceptions of group based discrimination to influence Latino adolescent mental health, adjustment, and risky behaviors. Data used from the Parents and Youth Study included 194 Mexican American (MA) adolescents. Adolescents reported on their perceptions of group discrimination, endorsement of traditional Mexican cultural values, and parent-child relationships in the 7<sup>th</sup> grade (Time 1). The study also used indices of externalizing (mother report), internalizing, substance use and risky sexual behavior (adolescent report) in 10<sup>th</sup> grade (Time 2). The findings demonstrated that traditional Mexican cultural values, particularly *familism*, moderated the relationship between perceived group discrimination and adolescent sexual behavior. Additionally, a better overall relationship with mother and father buffered the detrimental effects of perceived group discrimination on risky sexual behavior. The current work discusses future directions of how the context of culture and family may shape an adolescent's response to perceived discrimination and the well-being of minorities.

## DEDICATION

I dedicate this dissertation to my family. All my efforts are reflective of your love and care. Los quiero mucho y que Dios los bendiga siempre.

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## Chapter 1

### INTRODUCTION

The psychological toll and stress from social mistreatment based on their collective membership may have dire consequences on adolescents' development. In *The Nature of Prejudice* (1954), Allport discusses intergroup victimization of youth and states, "One's reputation, whether false or true, cannot be hammered, hammered, hammered, into one's head without doing something to one's character. A child who finds himself rejected and attacked on all sides is not likely to develop dignity and poise as his outstanding traits" (p.142). Traditional theoretical models claim that perceived discrimination disrupts individuals' basic functioning and human drive to maintain a positive sense of self, resulting in outcomes such as depression, anxiety or aggression (Baumeister & Leary, 1995; Lalonde & Cameron, 1994; Rosenberg, 1979; Tajfel & Turner, 1986). These social psychological frameworks provide a universal perspective for understanding the effects of perceived discrimination. However, they generally fail to address factors associated with adolescent resiliency to bias. This research aims to identify factors that may ameliorate the negative consequences of perceived discrimination.

Specifically, the present study will investigate the effects of perceived discrimination on Latino adolescents' psychological functioning over time. The present work will focus on an understudied group, Mexican American (MA) adolescents living in border states (Arizona, California). The rapid growth of Latinos in the U.S. has doubled within the past decade to 35.3 million, of which

Mexican Americans constitute more than half and are primarily located in the southwest region (U.S. Census Bureau, 2006). Currently, most of the empirical research on discriminatory experiences focuses on the African American population or the general ethnic minority population in adults (Fisher, Wallace & Fenton, 2000). This lack of breadth behooves a greater need for research on this population, and notably on the unique developmental processes of MA adolescents. The present study also seeks to explore ways in which the negative outcomes of discrimination may be reduced. In particular, scholars stress the need for studies considering the essential features of the culture and familial relations of the Latino population as sources of resilience (Berkel et al., 2010; Delgado, Updegraff, Roosa, & Umana Taylor, 2009; Garcia-Coll et al., 1996; Pabon, 1998). Thus, it is essential to examine the effects of perceived discrimination on adolescent development within the family framework, particularly for the MA culture.

The first section of this paper discusses the societal prevalence of perceived discrimination, and reviews the empirical literature on the putative link between perceived discrimination and behavioral health outcomes in MA youth. The second section describes how social contextual factors – cultural orientation and quality of family relationships -- may mitigate these consequences. One of the strongest determinants of resiliency in adolescents is quality of parenting (e.g., Masten, 2001), and the cultural concept of familism is of enormous importance in the Latino culture (Vega, 1990). No previous studies have examined all of the following within a single study, hence, the current study will distinctively test

- (a) the effects of perceived group discrimination
- (b) on different aspects of adjustment (mental health, behavioral adjustment, substance use and risky sexual behaviors),
- (c) specifically in MA adolescents
- (d) over a crucial developmental time period and
- (e) examine whether a value-embedded cultural orientation and better parent-child relationships moderate the effects of perceived personal discrimination on adjustment.

### **Prevalence of Perceived Discrimination**

In the field of social psychology, discrimination has been defined to “come about only when we deny individuals or groups of people equality of treatment which they may wish” in a variety of settings (employment, education, housing) and said exclusion does not involve the individual’s qualities, merits, or behavior (Allport, 1954, pg. 51). There are two main levels at which an individual may be a target of discrimination: personal and group levels. Personal discrimination is based on derogatory demeanor specifically directed towards the individual. The group level discrimination is based on derogatory treatment generally directed towards the group (e.g., racial, ethnic, gender) the individual belongs to. The group level may also comprise institutional or structurally-based discrimination that is expressed through the media or larger societal attitudes (Kang, 2000) . The literature mainly focuses on individual level perceived discrimination with few studies examining the effects of group based perceived discrimination.

Discrimination is a prevalent aspect of the social structure of the United States as thousands of court cases alleging racial discrimination are filed every year (U.S. Equal Employment Opportunity Commission, 2007). One study showed that 85% of ethnic minorities had been exposed to discrimination over the course of their lifetimes and many reported having been exposed to many aspects of discrimination at least occasionally over the course of their lifetimes (Brondolo, et al., 2005; Krieger & Sidney, 1996). In the 2002 National Survey of Latinos, 41% of Latino adults reported receiving poorer services at restaurants and stores, 30% were exposed to racial slurs and insults, and 14% reported they had not been hired or promoted because of ethnic discrimination. Other recent national estimates of Mexican American adults are similar: 30% reported unfair treatment due to discrimination and this estimate rises up to 50% for young adults ranging from 18-24 years (Perez, Fortuna, & Alegría, 2008).

In addition to the exposure of discrimination in adults, studies indicate that many ethnic minority adolescents have discriminatory experiences of some form (Simons et al., 2002; Spears-Brown & Bigler, 2005). By the age of 10 most children have developed an awareness of the meaning of discrimination and are concerned with issues of equality and fairness (Quintana & Vera, 1999; Verkuyten, 1997). Latino adolescents in an urban high school reported more perceived discrimination from adults (e.g., teachers, police, store personnel) than peers (Fisher, et al., 2000). One study reported that 46% of Mexican American adolescents have perceived a discriminatory event, with 29% being verbal slurs (Phinney & Chavira, 1995). With the ubiquitous nature of perceiving social

mistreatment and exclusion comes negative effects on individuals' functioning and on the development of Latino adolescents.

### **Empirical Literature on Perceived Discrimination and Negative Outcomes**

Over the past couple decades, a burgeoning line of empirical research has provided a better understanding of the social, psychological and physical consequences of perceived discrimination in various contexts for ethnic minority adults and adolescents (e.g., Cassidy, O'Connor, Howe, & Warden, 2004; Sellers & Shelton, 2003). Research demonstrates discriminatory encounters may pose a substantial psychological threat to individuals and result in stress reactions (Flores et al., 2010). This may lead to severe emotional reactions and health-compromising behaviors to cope with the stress. Several studies have found that perceived discrimination is related to the negative welfare of Latino adults, inclusive of reduced educational attainment, decreased employment, and lower salaries (Araujo & Borrell, 2006; Tienda, Donato, & Cordero-Guzman, 1992). The negative impact of perceived discrimination on psychological health outcomes includes lower self-esteem, less achievement motivation, elevated stress, more depressive symptoms, greater psychological distress and adverse effects on emotional well-being (Araujo et al., 2006; Finch, Kolody & Vega, 2000; Moradi & Risco, 2006; Salgado de Snyder, 1987; Williams, Neighbors, & Jackson, 2003). Poor physical health, measured via self-report, has also been associated with reports of discrimination in Mexican American adults (Finch, Hummer, Kolody & Vega, 2001). Likewise, in a community intervention initiative, perceived discrimination was shown to be much stronger predictor for

Mexican immigrants' mental health than for any other Latino immigrant group (Gee, Ryan, Laflamme, & Holt, 2006). Overall, perceived discrimination in Latinos is related to detrimental mental and physical health. Perceived discrimination as reported by Latino adolescents shows similar deleterious effects.

### **Impact of Perceived Discrimination on Latino Adolescents**

Perceptions of discrimination may impede healthy development and foster life adjustment problems in Latino youth. Perceiving the self to be the target of discrimination is likely to influence how one feels about the self, relationships with peers and family, educational aspirations, future goals, and mental and physical well-being (Spears-Brown et al., 2005). Numerous studies have shown that perceived discrimination is associated with internalizing problems, or anxiety and depression (e.g., Fisher, et al., 2000; Rumbaut, 1994; Szalacha et al., 2003;), as well as with externalizing problems, or acting out and delinquent behaviors (Fordham & Ogbu, 1986; Ogbu, 1991). The following section briefly reviews how perceived discrimination is related to various outcomes specifically for the Latino adolescent population. Correspondingly, Table 1 provides a comprehensive synopsis of the sample characteristics of every study (N, age, ethnic background, generation status, and region) examining the effects of perceived discrimination in Latino adolescents.

**Mental Health.** Past research has investigated the association between perceived discrimination and various mental health outcomes. A three-year longitudinal study of the growth patterns and correlates of perceived discrimination by adults and peers was conducted among Black, Latino and Asian

high school students (Greene, Way, & Pahl, 2006). In this study, adolescents who perceived discrimination from adults had increased depressive symptoms (Greene et al., 2006). In a cross-sectional sample of 5000 Asian, Latin American and Caribbean immigrant 8<sup>th</sup> and 9<sup>th</sup> grade students from southern California and south Florida areas, two-thirds of Mexican adolescent immigrants reported discrimination and expected to be discriminated against regardless of their obtained educational status, which was the highest among all the groups (Rumbaut, 1994). Depressive symptoms significantly increased with greater perceived discrimination and decreased self-esteem was related to expected discrimination (i.e., agreeing with the statement that "people will discriminate against me regardless of how far I go with my education").

Another cross-sectional study examined the costs of perceived discrimination and worrying about discrimination on the mental health in Puerto Rican youth living in U.S. mainland (Szalacha et al., 2003). The results showed that self-esteem was lower for the adolescents who perceived greater discrimination or who worried more about discrimination. Perceptions of discrimination were also positively associated with depression and stress. In addition, African American and Latino adolescents were more likely than Asian Americans to report being discriminated against in public contexts such as differential treatment by store personnel, or being viewed as dangerous and hassled by police more (Fisher et al., 2000). The distress from this perceived public discrimination was related to lower self-esteem and adolescents were also more likely to be excluded from peer activities because of their race. Furthermore,

perceived discrimination, measured as a bicultural stressor, was associated with lower self-esteem in Mexican American adolescents (Edwards & Romero; 2008; Romero & Roberts, 2003a) and was associated with depression for Latino adolescents and less optimism for female Latinas even after accounting for ethnicity, socioeconomic status, gender, and age (Romero, Carvajal, Valle, & Orduña, 2007).

Other researchers found higher levels of internalizing problems (i.e., depression and anxiety) and lower self-esteem with greater perceived personal and group discrimination. Such patterns, for example, were reported by 323 Latino adolescents in North Carolina (Smokowski & Bacallao, 2007). In contrast, a higher level of self-esteem was associated with greater perceived group discrimination (Armenta & Hunt, 2009). Notably, the interactive effect of perceived personal and group discrimination on self-esteem was examined. Using one item each for perceived personal and group discrimination, the investigators found that Latino adolescents' self-esteem suffered when they reported a greater amount of perceived personal discrimination but not perceived group discrimination. This effect was hypothesized to be part of social comparison. If adolescents perceive group discrimination, they may feel that they are better off than others in their ethnic group; whereas, if adolescents perceive greater personal discrimination than group discrimination they may feel worse than their counterparts. Adolescents, who are developing their identities, are in particular likely to be distressed by witnessing their ethnic group being derogated. Taking



note of these differential outcomes, the current study will investigate the unique effects of perceived group discrimination on various outcomes.

**Behavioral Conduct Problems (Externalizing).** A few studies find a link between perceived discrimination and the indicators of externalizing/behavioral adjustment. In a sample of 304 Latinos, bicultural stress (which included perceptions of discrimination) was related to future violence and drug use (Romero, Martinez, & Carvajal, 2007). Another study of 481 foreign and U.S. born Latinos living in North Carolina examined the various cultural factors that link to aggression. In this study, perceived personal and group discrimination were among the strongest predictors for adolescent aggression (Smokowski & Bacallao, 2006). Similarly, a study on foreign and U.S. born Cuban adolescents showed reports of acculturative stress (measured by language conflicts, adaptation conflicts, and perceived personal/group discrimination) were related to problem behavior reported by parents and teachers (Vega, Khoury, Zimmerman, Gil, & Warheit, 1995). In a recent study in MA youth, the effects of perceived personal discrimination via post-traumatic stress on sexual behaviors adolescents was examined (Flores, Tshann, Dimas, Pasch, Groat, 2010). Adolescents who reported more perceived personal discrimination related to greater post-traumatic stress symptoms, which lead to substance use, fights and more sexual partners.

**Academic Outcomes.** In addition, perceived ethnic discrimination may also limit the economic, academic, and professional achievements of Latino youth. A few studies have shown that academic success is negatively related to perceived discrimination. For instance, Degarmo and colleagues (2006) found that

a single item report of each experience with personal and group discrimination negatively impacted self-reported academic well-being (i.e., GPA, drop-out likelihood, homework frequency, and satisfaction of school performance). This is not surprising given that a sense of isolation or rejection in school would readily be associated with withdrawal from academic pursuits. In addition, Stone and Han (2005) conducted a longitudinal study on 578 second-generation Mexican American adolescents. The researchers specifically investigated how school environments relate to perceptions of discrimination and if these perceptions relate to future school achievements (i.e., grades). Net perceptions of teacher discrimination and poorer school environments were associated with lower grades and greater odds of being “off track.” Perception of setting (i.e., school climate) is an important predictor for perceived discrimination and school performance of Mexican American youth. Moreover, perceived ethnic bias in teachers has been shown to be related to high school dropout (Wayman, 2002). Similarly, differential treatment by adult figures threatened academic success (Fisher et al., 2000).

Hence, perceptions of discrimination are associated with an increase in negative mental, behavioral and educational consequences. Table 2 further outlines the type of perceived discrimination (personal and/or group) and the various concomitant outcomes measured in these studies. The table demonstrates the effects of perceived personal and group on adolescent adjustment indices, and what areas regarding this relationship need to be addressed. Most research has focused on the effects of perceived personal discrimination (or have examined

both personal and group combined) on mental health and self-esteem. Table 2 shows that few studies have examined how perceived group discrimination directly relates to externalizing problems, delinquent behaviors, and risky behaviors in the Latino adolescent population. There have also been various interpretations of the direction of this relationship given by the cross-sectional nature of the data, but a few longitudinal studies found that greater perceived discrimination does lead to poorer outcomes (Berkel, et al., 2010; Greene et al., 2006; Stone et al., 2006). In addition to providing greater empirical support for the direction of effect, the current study will further examine links with substance use and risky sexual behavior, which have little documentation as yet in the extant literature, along with mental health and behavioral adjustment outcomes.

### **Culture and Family as Intermediary Links**

The increasing amount of research on the consequences of perceived discrimination has served as the groundwork to document the perceived discrimination-outcome link in devalued groups. Despite this increased knowledge, the multifaceted aspects of an individual's lifespan that may be used to reduce the potential harm of facing discrimination are scarcely addressed. Lazarus and Folkman (1984) provide a framework of stress and coping with negative events beyond the mere occurrence of the event by including the interaction of the situational context and personal characteristics. This model posits that potentially stressful experiences, such as perceived discrimination, may not be experienced the same for everyone. This framework relates to the Stress Process Model (Roosa, Wolchik, & Sandler, 1997) in which processes in between

the stressor and outcome are classified to build resiliency (moderators) or reduce hindrances (mediators). Until recently, researchers had not examined family or cultural factors that may protect against the underlying effects of perceived discrimination. The next two sections review empirical research that acknowledges a complex set of processes that involves cultural and familial aspects between perceived discrimination and psychological well-being.

**Culture.** Cultural orientation<sup>1</sup> is the degree to which an individual incorporates and actively engages in the values, traditions, norms, and practices of a specific culture. Cultural orientation for Latinos living in the U.S. involves the changes due to living in the mainstream culture but coming from a distinct ethnic-origin culture. It involves two distinct processes: (a) acculturation, or the extent to which an individual adopts the knowledge, attitudes, values, behaviors, and language of the mainstream culture, and (b) enculturation, or the extent to which an individual incorporates the knowledge, attitudes, values, behaviors and language of their ethnic group (Gonzales, German, & Fabrett, in press). The values, traditions, norms, and practices of the Latino culture include elements such as familism, religiosity, and language use. Gonzales and colleagues (in press) review research on resiliency linked to biculturalism, wherein individuals who navigate both cultures effectively have higher self-esteem, greater peer competence, academic well-being and better mental health. Thus, cultural orientation is a significant part of one's social identity that may serve as a buffer or risk in psychosocial outcomes.

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<sup>1</sup> Cultural orientation is also referred to cultural adaptation, biculturalism or the acculturation process.

The elements of each culture (e.g., language use) may affect the stress that results from perceiving discrimination, at times heightening its impact and at times diminishing it. The sequence of events of how traditional Mexican cultural values may decrease adolescent problem behaviors in the face of perceived discrimination currently is under investigation. Some studies have found that cultural orientation mediates the effects of perceived discrimination (Berkel et al., 2010; Smokowski & Bacallao, 2007) while others have found that cultural orientation moderates the effects of perceived discrimination (Delgado, Updegraff, Roosa, & Umana Taylor, 2009; Umana Taylor & Updegraff, 2007). The process of whether cultural factors mediate or moderate the relationship between perceived discrimination and outcomes rely on whether the factor serves as a risk reducer (mediator) or protective factor (moderator) (Roosa et al., 1997). As a protective factor, Mexican American values would attenuate the impact of perceived discrimination on mental health and academic outcomes. For instance, when traditional cultural values are low, perceived discrimination may be associated with greater mental health and adjustment problems. In contrast, when endorsement of traditional cultural values is high, perceived discrimination may be associated with less mental health or adjustment problems. This mechanism suggests that cultural values of Mexican American adolescents may be operating as a moderator factor by attenuating the effects of stressors (i.e., perceived discrimination) on negative outcomes. Alternatively, as a risk reducer, traditional Mexican cultural values would explain the effect of perceived discrimination on adolescent adjustment. For instance, considering traditional cultural values as a

mediator, the perceptions of group based discrimination increases internalization of these culturally related values that ultimately promote positive mental health outcomes. When perceived discrimination does not related to the endorsement of traditional cultural values, there is no effect on mental health or adjustment problems.

One prospective study of 750 Mexican American adolescents tested whether cultural values can serve as a risk reducer or protective factor between perceived discrimination and outcomes (Berkel et al., 2010). The endorsement of one's traditional cultural values (or the process of enculturation) reduces the risks associated with perceptions of discrimination on mental health and academic outcomes. Smokowski and Bacallao (2007) also found familism to mediate perceived discrimination and self-esteem such that familism lessened the negative effect of perceived discrimination. A cross-sectional study examined the degree to which Latino adolescents' language-related cultural orientation moderated the risks associated with perceived discrimination. Investigators found that a strong English acculturation (e.g., language orientation toward the mainstream culture) exacerbated the effects of perceived discrimination on self-esteem and depressive symptoms for male Latinos (Umana Taylor et al., 2007). However, in another cross-sectional study of MA boys, a low Anglo orientation increased the effects of perceived discrimination on risky behaviors (Delgado, Updegraff, Roosa, & Umana Taylor, 2009). The negative effects of perceived discrimination on delinquent peer affiliations were exacerbated for MA girls with mothers high in Anglo orientation (Delgado, Updegraff, Roosa, & Umana Taylor, 2009).

**Family.** Family has long been noted to serve important roles in the development of adolescents and the family can support a child's acquisition of skills to successfully deal with challenges (Devore & Ginsburg, 2005; Degarmo et al., 2006; Simons et al., 2002). Latinos, in particular, are likely to have strong, supportive extended family networks (Vega, 1990). Family bonds run deep in Latino culture, and Latino family members often rely on one another for support and care (Keefe & Padilla, 1987; Oropesa, 1996; Valenzuela & Dornbusch, 1994; Vega 1990). The Latino family has been described as warm, close and nurturing but also having aspects of authoritarianism, monitoring and strictness (Vega, 1990). All these characteristics are integral to one of the most significant cultural values of Latinos, *familism*, or the emphasis on solidarity and loyalty among family members (Vega, 1990). Familism values positively influence the context of Latino adolescents and provide families a way to cope with the many challenges they encounter in their lives (Gonzales, Germán, & Fabrett, in press).

Several studies show how family plays a significant role in reducing risk. In samples of primarily Latino adolescents, parental support, parental caring, communication and family connectedness have been associated with lower levels of emotional distress, better interpersonal adjustment and reduced delinquency (Demaray & Malecki, 2002; Garcia, Skay, Sieving, Naughton, & Bearinger, 2007). In addition, Felix-Orriz and Newcomb (1999) found that quality of family life, as measured by having supportive parent relationships, contributed as a protective mechanism for vulnerability to drug use. Overall, the research shows

that family has a great influence on the development of Latino adolescents and influences mental health, delinquency and academic success.

Researchers have also examined whether family plays a role against the negative effects of perceived discrimination. In a cross-sectional study, social support as provided by the parents, school and peers buffered effects of perceived discrimination on academic well-being in Latino youth (Degarmo et al., 2006). This study underscored the importance of family, in which parental support, measured by feeling comfortable talking to parents across a number of situations, may protect adolescents' academic well-being during stressful events, such as perceiving discrimination. Although this study advances the idea of the family (i.e., parents) as a protective factor, the study did not explore the cultural underpinnings of this important source of support. Does parental support stem from the endorsement of a strong, cohesive family embedded within the Latino culture? Quality of familial relationships may be determined by the strong traditional cultural values distinct to Latinos (i.e., familism) . The current study captures the whole quality of familial relationships embedded within a culture that strongly emphasizes the support, care, closeness and overall cohesion of familial relationships. Cultural values may be a key driving force in the formation of protective familial relationships between the perceived discrimination-outcome link.

This literature, although limited, accumulates evidence on how an adolescent is affected by perceived discrimination accounting for the instrumental processes of culture and family. Although these studies vary in measurement of



cultural aspects (i.e., cultural orientation, language use, acculturation, cultural values) and differ in conceptualization of culture as a mechanism (i.e., mediator or moderator), culture generally plays an important role in adolescent adjustment and coping with stressful events. And more importantly, certain *aspects* of the culture may be key elements in providing resilience, such as the internalization of traditional cultural values that shapes the youth to build a stronger system of support. These values engrained in native Mexican and Mexican-American culture, such as familism, respect for elders, religiosity, and gender roles, cultivates assets in a shared set of attitudes, beliefs, and behaviors. Through these cultural assets, the adolescent endorses the protective nature of deep-rooted values, socialized through the family (Berkel et al., 2010). In particular the asset of internalizing familism may enhance harmonious relationships with the family, giving the adolescent strong kinship ties, a sense of honor through familial obligations and representation. Thus, the current study seeks to outline how traditional cultural values are a source of resilience through the corollary benefits of enhancing familial relationships.

While studies show that culture plays (an often mixed) role between negative outcomes and perceived discrimination, no studies have examined how incorporation of cultural values may lead to the protective qualities of better, harmonious relationships within the family in the context of perceived discrimination. Cultural orientation may play an intermediary role between the discrimination-outcome link, but is this effect more directly influencing quality relationship experiences that go on to buffer the negative effects of perceived

discrimination? To understand the cultural sources that may provide resilience for MA adolescents, the current study prospectively examines how the protective influence of the family may be internalized from traditional cultural values. A critical feature in traditional cultural values is the concept of familism as an asset. Latinos who are more enculturated may find greater support and solace in their relationships with their parents. The deeply ingrained sense of cohesion may have important salutary effects on personal relationships within the family. Incorporating familism may facilitate the involvement of parents in handling any perceived discriminatory experiences. However, more information is needed to understand how familism functions as a cultural asset and how it relates to the effects of perceived group discrimination. This cultural setting may provide a foundation for strong family relationships to protect adolescents against potentially negative effects of discrimination.

### **Description of the Current Study**

Perceived discrimination is a pressing issue with dire consequences for many, including MA youth (e.g., Fisher, et al., 2000; Rumbaut, 1994; Szalacha et al., 2003; Edwards & Romero; 2008; Romero & Roberts, 2003). Previous research focuses on examining the link between perceived personal discrimination and a variety of outcomes with few studies investigating the particular moderators that influence this relationship. The majority of these studies also cluster all ethnic minorities or collapse across Latino subgroups. This is a shortcoming that limits how much we can generalize the findings to specific groups, such as MA youth, in different environmental contexts. In addition to only examining the impact of

perceived personal discrimination as past literature, perceived group discrimination was evaluated. Most studies focus on how perceived personal discrimination may increase mental health and behavioral problems but have not examined the impact of broader group level awareness of perceived discrimination. A number of adolescents may be exposed to generalized discrimination towards the broader community that the adolescent resides in. An adolescent who acknowledges the pervasiveness of ethnic discrimination may be more likely to aggressively act out to protect oneself (e.g., externalizing, risky behaviors, substance use) or feel adverse and negative towards the self (i.e., depression, anxiety). Notably, an empirical test over time of all these components is necessary to determine the temporal direction in which these processes occur. The direction of effect cannot be determined from the majority of extant studies because most are single, point-in-time measurements with a cross-sectional design. Assessing change over time is imperative, particularly when examining adolescents who will quite likely experience developmental alterations.

Addressing these limitations of previous research, the current study, broadly, aims to examine the impact of perceived group discrimination on the behavioral development of MA adolescents over a span of 4 years (beginning 7<sup>th</sup> grade = Time 1 to the 10<sup>th</sup> grade = Time 2). This age is a crucial period of identity and role development and sensitivity to perceived discrimination may be heightened for adolescents at this age (Erickson, 1968). One aim of this study is to determine the link between perceived group discrimination and four main adjustment outcomes: internalizing problems, externalizing problems, substance

use, and sexual behavior. As reviewed, most research examined the link between perceived discrimination and mental health, behavioral and academic outcomes. The current study uses similar outcome measures of mental and behavioral health (internalizing and externalizing problems) but further examines adolescent substance use and sexual behavior, which are vaguely noted in prior research.

Another aim of the study is to identify the cultural and familial factors that may buffer the relationship between perceived group discrimination and adolescent outcomes. The current study investigates how traditional Mexican cultural values may facilitate relationships within the family that in turn serves to moderate the relationship between perceived discrimination and negative outcomes in young MA adolescents during their transition to late adolescence. Some studies have found cultural aspects, primarily language use (i.e., Umana-Taylor et al., 2008), as a moderator; whereas other researchers have found culture to serve as a mediator (Berkel et al., 2010; Smokowski et al., 2009). The current study examines the endorsement of traditional values of the Mexican culture as a protective factor. The values outlined by Knight and colleagues (2010) demonstrate four core ideals inherent to the Mexican culture: *religion*, *gender roles*, *respect* and *familism*. Religion is a core value in the sense that the Mexican culture is filled with faith, spirituality as well as strong beliefs in a higher power. This allows individuals to have a sense of dependence and hope when faced with difficult times. Gender roles as a core value focuses on the duties of males (e.g., breadwinner, head of household) and females (e.g., child rearing, protection of girls). This provides structure to the differential expectations as adolescents are

growing up. Respect involves the intergenerational behaviors of deference to parents and elders. The respect value delineates the demeanor of the child in the adult world and fosters the belief that parents generally know best. And familism hones in on the importance of close relationships, caregiving and defining the self based on a larger collective. Familism provides an adolescent with a sense of community and invaluable resources. In regards to perceived discrimination and what may moderate its impact in MA adolescents, familism strengthens the notion that those closest to you will do anything for you. Endorsing this value bolsters commitment to the belief of the family as a cohesive unit. When familism is incorporated into one's value system it is reflected through behavioral aspects, such as the relationship an adolescent holds with their father and mother. In addition to determining which aspect of traditional Mexican cultural values provides resilience, the current study addresses how these values link to two familial factors: overall father-adolescent and overall mother-adolescent relationship quality. In consideration of the endorsement of the cultural value, familism may lead to better overall relationship with parents. Strong relationships with parents, stemming from familism, may insulate MA adolescents against potentially detrimental effects of perceived discrimination.

Overall, the current study investigates how the critical feature of a value-embedded cultural orientation towards familism enhances familial relationships that both attenuate the marginalizing experiences of perceived group discrimination. The current study seeks to test the following build-up hypotheses:

*(1) Consistent with previous research, it is predicted that perceived group discrimination at Time 1 (7<sup>th</sup> grade) will relate to greater internalizing and externalizing problems in MA adolescents at Time 2 (10<sup>th</sup> grade). Perceived group discrimination at Time 1 is also expected to relate to greater substance use and risky sexual behavior at Time 2.*

The various experience of discrimination is a key, yet often overlooked, culturally-linked risk factor in minority youth. The receptivity of an immigrant or minority group has been considered a powerful stressor in today's society. Latino youth have an increased risk for mental health, externalizing problems and engagement in risky behaviors and these problem behaviors may be an outcome of difficult experiences with discrimination (e.g., Flores et al., 2010).

*(2a) MA adolescents' susceptibility to developing adjustment problems as a consequence of perceived group discrimination will be attenuated by traditional Mexican cultural values. Endorsement of traditional cultural beliefs and ideals at Time 1 will attenuate the negative effects of perceived group discrimination at Time 2.*

Extending beyond traditional frameworks, there is a burgeoning line of empirical research that acknowledges a complex set of processes that involves cultural aspects between perceived discrimination and psychological well-being. Given the prevalence of perceiving discrimination and significant detrimental consequences, there must be certain assets that reduce the potential harm perceived discrimination

imposes on adolescents during this crucial developmental period. For MA adolescents, endorsement of traditional cultural values provides a sense of meaning, community and helpful resources. This may serve as a protective factor that builds resiliency in the face of a stressful event.

*(2b) If a traditional cultural value orientation does moderate, it is expected that familism will be a specific dimension of traditional Mexican cultural values that operates as a moderator of the negative effects of perceived group discrimination.*

Familism is a central concept of traditional Mexican cultural values. This value provides a context of shaping relationships within the family that may lend an advantage to an adolescent who faces adversity outside the home. As a core family value, familism develops the foundation for the protective elements within the family in the face of stressful discriminatory events. A young adolescent may have a safe haven putting trust in the family unit and knows where to turn to when the world outside is unjust.

*(2c) Lastly, I will test whether personal family relationships account for moderation effects of familism. More specifically, it is expected that mother and father overall relationship with the adolescent will specifically buffer the negative impact of perceived group discrimination.*

Although the commitment to the value of familism may build resiliency, relationships within the family unit may help adolescents understand and cope with perceived discriminatory experiences. Good relationships

between the mother, father and adolescents affords open discussion for how to deal with adversity and bequeaths the adolescent with the warmth they are not receiving in their external environment.



## Chapter 2

### METHODS

#### **Participants**

All participants were part of the first and last wave in a larger study, the Parents and Youth Study (PAYS), which consisted of 393 families. PAYS is a two-site, longitudinal project that examines how Mexican-American and European-American fathers and stepfathers influence adolescents' mental health and behavioral outcomes. For the purposes of this study, the sample characteristics will be reported for the participants used in the analyses (i.e., Mexican-American families). Participants consisted of 194 Mexican American adolescents (102 females) that began in the 7<sup>th</sup> grade at the time of the first interview. The age ranged from 12-14 years old ( $M = 12.88$ ) and slightly more than half of the participants came from intact families (108), whereas the other 86 adolescents came from families with a step-father. Of the 194 families, 131 mothers and 134 fathers were born in Mexico. There were 45 families who dropped out of the study. Thus, Time 2 sample consisted of 149 adolescents, which included 80 females and 92 from intact families ranging in age from 15-17 ( $M = 16.02$ ).

#### **Recruitment and Data Collection**

Families were recruited in schools from both the Phoenix, AZ and the Riverside, CA areas and were awarded cash for participating. Sample recruitment was determined by protocol established by the principal investigators of PAYS via the school systems. The desired sample size was 200 families from each of the

two sites, with 50 families per site in each of the 4 populations of interest: Anglo Intact families, Anglo Step-father families, Mexican American Intact families, and Mexican-American Step-father families. All three members (adolescent, mother, and father/stepfather) were of the same ethnicity, either European or Mexican descent. Stepfather families were eligible if the male partner was cohabitating with the mother and adolescent for at least one year prior to the first interview.

In-home interviews were conducted in different rooms for the three participating family members (mother, father, adolescent) by a team of three trained interviewers. The all-inclusive surveys created for the PAYS project lasted approximately two hours and were conducted in either Spanish or English, depending on the request of the participant. There were 24 adolescents who completed the survey in Spanish. Interviewers read the questions of the survey out loud and the participants answered based on a response card.

## **Measures**

### **Time 1 Predictors (Adolescent report)**

**Group Discrimination.** Five modified items from Keefe and Padilla's (1987) perceived group discrimination scale was administered to the adolescent. The measure included items that addressed the unfair treatment of Mexican Americans by institutions and/or agencies. An example item was, "Most teachers in the schools here pay more attention to Anglo (White) adolescents than to Mexican or Mexican-American adolescents." The response scale ranged from

1=Strongly Disagree to 4 =Strongly Agree and higher scores reflected more perceived group discrimination. The alpha for the scale was .80.

**Traditional Cultural Values & Familism.** Adolescents' culturally-dependent values (e.g., how they feel about traditional gender roles, family cohesion, and spirituality) were assessed, using 32 items selected from an initial version of the Mexican American Cultural Values Scale (MACVS; Knight, et al., 2010). This measure was developed based upon focus groups of Mexican American mothers, fathers, and adolescents from different geographic locations. Cultural values were categorized into several smaller subscales: familism-support, familism-obligation, familism-referents, religion, respect, and traditional gender roles. Participants were asked to rate how much they agreed on a 5-point scale ranging from 1 (strongly disagree) to 5 (strongly agree). Sample items include "Family provides a sense of security because they will always be there for you" and "Children should not talk back to adults or other authority figures." Higher scores on the enculturation subscales reflect agreement with enculturation, or more traditional Mexican values. Familism was assessed using the subscale portion of the MACVS (15 items) including the three dimensions: support, obligation, family as a referent. The Cronbach's alpha was .9 for the overall measure and .89 for the familism subscale.

**Parent- Adolescent Overall Relationship Quality.** Two items were created for this study to assess the overall quality of the relationship between each parent and the adolescent: "How well do you get along with your (parent)?" and "What kind of relationship do you have with your (parent)?" Items were

standardized as they were scored on different metrics (5- point and 7-point Likert scales, respectively) and then combined. Higher scores indicate a better relationship quality. The alpha was .83 for the father-adolescent relationship and .85 for the mother-adolescent relationship.

## **Time 2 Outcomes**

**Adolescent Report of Internalizing Behavior.** Included in the survey were six items from the Revised Adolescent's Manifest Anxiety Scale (RCMAS; Reynolds, 1978) and seven items from the Adolescent Depression Inventory (CDI; Kovacs, 1992) to assess internalizing behavior problems. The literature documents that the best report of internalizing behavior is self-report and generally is not combined with adult reporters of internalizing behavior (Grigorenko, Geiser, Slobod Francis, 2010; Sourander, Hestela, & Helenius, 1999; Stanger & Lewis, 1993). The adolescent responded "yes" or "no" to items from the RCMAS such as "In the past month you worried about what was going to happen". The alpha for the RCMAS was .67. From the CDI, adolescent responded on a 3-item value scale corresponding to behaviors associated with depression such as (1) "Things bothered me all the time", (2) "Things bothered me many times" and (3) "Things bothered me once in a while". Cronbach's alpha for the CDI was .66. All items were z-scored then averaged to derive a single internalizing scale reported by the adolescent. Higher scores reflected more internalizing behaviors. The correlation between the two scales was .6.

**Mother report of Externalizing problems.** There were 20 items from the externalizing subscale of the Behavior Problems Index directly from the National

Longitudinal Study of Youth (NLSY) 1979 used to assess externalizing problems. Mother was used as an independent reporter of adolescent adjustment in regards that adolescent self-report of externalizing behaviors has limited validity and to avoid shared method variance (Schwab-Stone et al., 1996). Mothers are often readily available to report the everyday behavior of adolescents in the home under different circumstances and extensive periods of time relative to other reporters. A sample item of this measure included, “(He/she) had trouble getting along with other children.” The scoring used for these scales was continuous (i.e., often true = 1; sometimes true = 2; never true = 3). The Cronbach’s alpha was .86.

**Adolescent Report of Substance Use.** The scale measures the onset, frequency and abuse of chemical substances as reported by the adolescent. These items were adapted from the 1993 Youth Risk Behavior Survey, a large-scale national study conducted by the Centers for Disease Control that incorporates issues of drug and alcohol abuse. Items were taken from the “Monitoring the Future Scale” which asks, relative to each substance, whether the adolescent has taken it in his/her lifetime, how many times in the last 30 days, and in the last 3 months. The use of the following substances were included: alcohol, marijuana, cocaine (in its various forms), and then include one general question regarding all other forms of illegal drugs (e.g., heroine, mushrooms). For each substance, the age of onset of use was elected (4 items for each substance), and then the last 30 days timeframe (4 items for each substance) was chosen in order to give more accurate reports for shorter time frames. The 8 items were combined summing across all responses as count data. The Cronbach’s alpha was .82.

**Adolescent report of Sexual Behavior.** The items from this scale were adapted from the Youth Risk Behavior Survey (1993). The four items included information on if the adolescent has engaged in sexual intercourse, the age of onset of engaging in sexual intercourse, number of sexual partners and contraceptive behavior (on a response scale of 1= Never had sexual intercourse to 6 = Never use any form of contraception). Scores were imputed based on skip patterns. For example, those who said that they had not ever had sexual intercourse skipped the remaining items but were imputed to have the score of 0 for number of sexual partners. The 4 items were combined summing across all responses as count data. Higher scores on this scale reflect having had sexual intercourse, having had sexual intercourse at a younger age, with more partners, and riskier contraceptive behavior. The alpha for the sexual behavior scale was .83.

### **Statistical Analytic Plan**

The planned analysis for Hypothesis 1, which stated greater perceived group discrimination relates to greater problem behavior (internalizing, externalizing, substance use, risky sexual behavior) in MA adolescents, was included in the first step of all the regression models and the resulting significant coefficients are described within each of the subsequent analyses. To test the additional Hypotheses (2a-c) relating to how cultural and family dynamics moderate this relationship, the final variable in each regression analysis captures the interaction effects. To minimize nonessential multicollinearity, the predictor variables were first centered, and the interaction term was formed as the

standardized cross-product of the centered variables (see Aiken & West, 1991). Significant interactions were probed in which the simple slopes of the outcome variable were regressed on perceived group discrimination at the mean, 1 SD above the mean (“high”), and 1 SD below the mean (“low”) (Aiken & West, 1991). Figures 1-4 show the simple slopes of each significant interaction.

To address Hypothesis 2a, four analyses were initially conducted: two hierarchical Ordinary Least Square (OLS) regressions with internalizing and externalizing outcomes and two negative binomial regressions with sexual behavior and substance use. For the OLS regressions, the separate models for the adolescent/adult reporter included the Time 2 outcome variable (i.e., child report of internalizing problems, mother report of externalizing problems) regressed onto the main effects of perceived group discrimination, traditional Mexican cultural values, and the interaction terms between perceived group discrimination and cultural values. Past literature has demonstrated relations of gender and family type (step versus intact) to children’s behavioral adjustment problems (e.g., Achenbach, 1982; Buchanan, Maccoby, & Dornbusch, 1996); thus the analyses partialled out these two variables as well as the behavioral adjustment outcome at Time 1 (internalizing, externalizing, sexual behavior and substance use in 7<sup>th</sup> grade) by entering them in the first step of the regression as potential covariates. The predictors of interest were entered in 2 steps for each model: 1) main effect of perceived group discrimination, and cultural values; and 2) interaction term (e.g., perceived discrimination X cultural values).

To address the second half of Hypothesis 2a, two negative binomial Poisson regressions were conducted for the Time 2 outcome variable (i.e., 10<sup>th</sup> grade sexual behavior and substance use). Considering that both outcome variables are count data (i.e., number of occurrences of the behavior in a certain amount of time) with low means (skewed distribution), the Poisson regression provides an appropriate analyses (Coxe, Aiken, & West, 2009). Poisson regression and its derivatives (i.e., negative binomial regression) are based on the generalized linear model (GLiM) that modifies two major components of the OLS regression framework: transforms the outcome, and accommodates an appropriate error structure (Cohen, Cohen, West, & Aiken, 2003). These two modifications are important when specific count variables are not meeting the minimal assumptions of OLS regression, particularly 1) conditional normality and 2) homoscedasticity. Conditional normality requires a normal distribution of the residuals and homoscedasticity requires a constant variance of the residuals. Outcome variables made of count data often show heteroscedasticity and non-normal conditional distributions. For example, if a researcher was interested in the amount of smoking predicted by peer friendships in high school, the data will include a group of adolescents who never smoke. This conditional distribution of the count variable with non-smokers creates a number of low-counts at zero and all positive integers (e.g., no adolescent can smoke -1 cigarettes). The heteroscedasticity and skewness of the distribution leads to the violation of these two assumptions in OLS regression and the standard errors and tests of significance will be biased (increasing a Type I error).



The discrete distribution of Poisson regression better represents the properties of count data because it is based only on probability values for nonnegative integers (no count data exists below zero), whereas OLS uses the normal, continuous distribution from negative to positive infinity. In addition, the predicted scores are the natural logarithms of the counts (i.e.,  $\log_e$  or  $\ln$ ), which relates the metric of the predicted scores with the observed dependent variable scores. This allows for the transformation of the outcome to linearize a potentially nonlinear relationship between the dependent variable and the predictors.<sup>2</sup>

This transformed metric, however, does not allow the interpretation of regression coefficients in the counts themselves but rather the natural logarithm of the counts, which may not relate to the original meaning of the scale. Thus, interpretation of the regression coefficients in terms of the original count metric can be obtained following an algebraic manipulation using the property of exponents. Raising both sides of the regression equation,  $\log_e(Y) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 \dots$  etc. to the power of  $e$  results in,  $Y = (e^{\beta_0}) (e^{\beta_1 X_1}) (e^{\beta_2 X_2}) \dots$  etc. Rather than the additive nature of OLS regression, the changes in the predictor (Y) result in multiplicative changes in the predicted count. For example, the interpretation of the term,  $e^{\beta_1 X_1}$ , is the predicted multiplicative effect of a 1-unit change in X1 on

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<sup>2</sup> Coxe, West, & Aiken (2009, pg. 123) summarize “Poisson regression is a GLiM with Poisson distribution error structure and the natural log ( $\ln$ ) link function. The Poisson regression model can be depicted as  $\ln(\hat{\mu}) = b_0 + b_1 X_1 + b_2 X_2 + \dots + b_p X_p$ , (3) where  $\hat{\mu}$  is the predicted count on the outcome variable given the specific values on the predictors X1, X2, . . . , Xp. Recall that  $\ln$  refers to the natural logarithm,  $b_0$  is the intercept, and  $b_1$  is the regression coefficient for the first predictor, X1. The use of GLiM with the Poisson error structure resolves the major problems with applying OLS regression to count outcomes, namely, nonconstant variance of the errors and non-normal conditional distribution of errors.”

the outcome. Thus, the unstandardized regression coefficient is exponentiated to interpret the results in the original count metric.

The variant of the standard Poisson regression is the negative binomial regression, which accounts for overdispersion in the data (i.e., variance of the distribution is not equal to the mean) by allowing for heterogeneity among individuals. The procedure in Cox et al. (2009) was used to test two nested model comparisons of the standard Poisson and the negative binomial regression model. The nested model test of standard Poisson versus negative binomial is given by  $X^2(1) = 254.38 - 140.13 = 114.25$ ,  $p < .001$  for substance use, and  $X^2(1) = 402.04 - 137.1 = 264.94$ ,  $p < .01$  for sexual behavior. Both of these tests indicate that significant overdispersion is present in the data for substance use and sexual behavior. The negative binomial model fits better than the standard Poisson model and thus was used to conduct further analyses for substance use and sexual behavior outcomes. The interpretation of the regression coefficients remain the same.

For the two negative binomial regressions, both outcome variables were regressed onto the main effects of gender, family type, behavioral adjustment outcome at Time 1 (i.e., 7<sup>th</sup> grade sexual behavior and substance use), perceived group discrimination, cultural values, as well as the corresponding interaction terms between (i.e., products of) perceived discrimination and cultural values.

The follow-up analysis for Hypothesis 2b takes a sequential approach to determining whether *familism* is an important driving force of the moderation effects of traditional Mexican cultural values over the additional subscales:

traditional gender roles, religion and respect. The first step in this sequential approach will delete the subscale least correlated with *familism*, traditional gender roles. The second step will involve deleting the two lowest correlated subscales with familism: traditional gender roles and religion. And the last step will delete all three subscales to examine the moderation effects of *familism*. This sequential approach determines *familism* as a sole moderator, as each subscale is removed from the model. These set of analyses will test three negative binomial regressions (as described above) with the outcome variable regressed onto the main effects of gender, family type, behavioral adjustment outcome at Time 1 (i.e., 7<sup>th</sup> grade sexual behavior and substance use), perceived group discrimination, cultural values (1. Without traditional gender roles, 2. Without traditional gender roles and religion, 3. Without the three additional subscales, and only familism) as well as the corresponding interaction terms between (i.e., products of) perceived discrimination and cultural values.

Hypothesis 2c will repeat the steps above following a significant interaction effect with the new proposed moderator variables: overall relationship with mother and father (Hypothesis 2c).

## Chapter 3

### RESULTS

#### **Descriptives and Correlations**

The means, standard deviations, and scale range for all study variables are presented in Table 3. An alpha level of .05 was used for all statistical tests.

Pearson product moment correlations among the Time 1 predictors are presented in Table 4: perceived group discrimination, traditional Mexican cultural values, and parent-adolescent relationship quality. Perceived group discrimination negatively related to mother-adolescent overall relationship. Traditional Mexican Cultural values related to higher familism, and better overall relationship with the mother. Greater endorsement of familism related to a better overall relationship with mother and father. Mother-adolescent relationship significantly related to all other predictor variables. Perceived group discrimination at both time points moderately correlated ( $r = .42$ ). The reports of perceived group discrimination at Time 1 do not significantly differ for those who remained for Time 2 ( $M = 2.05$ ) and those who dropped out ( $M = 2.25$ ),  $F(1,192) = 3.19$ ,  $p > .050$ .<sup>3</sup> The means from Table 3 shows that there was a slight increase in perceived group discrimination.

The correlations between externalizing problems (mother report), internalizing problems (adolescent report), substance use (adolescent report) and sexual behavior (adolescent report) at Time 2 are found in Table 4. Child report of internalizing positively related to externalizing (mother report), substance use and

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<sup>3</sup> The reports of the predictors or outcomes at Time 1 did not significantly differ for those who remained in Time 2 and those who dropped out.

sexual behavior. Substance use also positively related to sexual behavior ( $r = .53$ ).

The correlations among the Time 1 predictors and four outcome variables of interest. Perceived group discrimination significantly correlated only with child report of internalizing ( $r = .18$ ).

## **Regression Models**

### **Hypothesis 1 & 2a**

Hypothesis 1 stated that greater perceived group discrimination is expected to relate to more internalizing, externalizing and risky behaviors (sexual behavior and substance use). The analysis for Hypothesis 2a, which stated that greater endorsement of cultural values will buffer the negative impact of perceived group discrimination and behavioral adjustment, involved two hierarchical OLS regressions and two negative binomial regressions. Table 5 contains all raw and standardized solution regression coefficients, and raw standard errors from the OLS regression analyses. Table 6 contains the raw regression coefficients and raw standard errors from the negative binomial regression analyses.

*Mother report of adolescent externalizing.* On step 1, the covariates (previous report of externalizing in 7<sup>th</sup> grade, gender, and family type) did account for a significant amount of overall variance in 10<sup>th</sup> grade externalizing behaviors,  $F(3,147) = 24.27, p < .001, R^2 = .33$ . Males tended to report more externalizing behaviors,  $b = 2.34, p < .05$ . When entered on step 2, perceived group discrimination and traditional Mexican cultural values did account for a significant amount of overall variance in 10<sup>th</sup> grade externalizing behaviors

controlling for gender, family type and externalizing behaviors in 7<sup>th</sup> grade,  $F(5,145) = 14.49, p < .001, R^2 = .33$ . However, there was not a significant increase in explained variance from Step 1 (included covariates),  $\Delta F(2,145) = .20, p > .05, \Delta R^2 = .002$ . The partial regression coefficient relating perceived group discrimination to 10<sup>th</sup> grade externalizing behaviors was not statistically significant,  $b = -.31, p > .05$ . On step 3, the interaction between perceived group discrimination and traditional cultural values accounted for a significant amount of overall variance in 10<sup>th</sup> grade externalizing behavior,  $F(6,144) = 12.07, p < .001, R^2 = .34$ . However, there was not a significant increase in explained variance from Step 2 (included main effects of predictors and covariates),  $\Delta F(1,144) = .34, p > .05, \Delta R^2 = .002$ . The partial regression coefficient relating the interaction between perceived group discrimination and traditional Mexican cultural values to 10<sup>th</sup> grade externalizing behaviors was not statistically significant,  $b = -.28, p > .05$ .

***Adolescent report of internalizing.*** On step 1, the covariates (previous report of internalizing in 7<sup>th</sup> grade, gender, and family type) did account for a significant amount of overall variance in 10<sup>th</sup> grade internalizing behaviors,  $F(3,145) = 13.17, p < .001, R^2 = .21$ . Adolescents from step-families tended to report more internalizing behaviors,  $b = .3, p < .05$ . When entered on step 2, perceived group discrimination and traditional Mexican cultural values did account for a significant amount of overall variance in 10<sup>th</sup> grade internalizing behaviors controlling for gender, family type and internalizing behaviors in 7<sup>th</sup> grade,  $F(5,143) = 7.86, p < .001, R^2 = .22$ . However, there was not a significant

increase in explained variance from Step 1 (included covariates),  $\Delta F(2,143) = .14$ ,  $p > .05$ ,  $\Delta R^2 = .002$ . The partial regression coefficient relating perceived group discrimination to 10<sup>th</sup> grade internalizing behaviors was not statistically significant,  $b = .05$ ,  $p > .05$ . On step 3, the interaction between perceived group discrimination and traditional cultural values accounted for a significant amount of overall variance in 10<sup>th</sup> grade internalizing behavior,  $F(6,142) = 6.51$ ,  $p < .001$ ,  $R^2 = .22$ . However, there was not a significant increase in explained variance from Step 2 (included main effects of predictors and covariates),  $\Delta F(1,142) = .001$ ,  $p > .05$ ,  $\Delta R^2 = .00$ . The partial regression coefficient relating the interaction between perceived group discrimination and traditional Mexican cultural values to 10<sup>th</sup> grade internalizing behaviors was not statistically significant,  $b = .01$ ,  $p > .05$ .

*Adolescent report of substance use.* The negative binomial poisson regression model predicting adolescent 10<sup>th</sup> grade substance use from gender, family type, sexual behavior in 7<sup>th</sup> grade, perceived group discrimination, traditional Mexican cultural values and the perceived group discrimination X traditional Mexican cultural values interaction was statistically significant,  $X^2(6) = 15.64$ ,  $p = .02$ . Adolescents from step-families tended to report more internalizing behaviors,  $b = .69$ ,  $p < .05$ . The predictors were not statistically significant: perceived group discrimination ( $e^{-.24} = .79$ ,  $p > .05$ ) and traditional Mexican cultural values ( $e^{-.27} = .76$ ,  $p > .05$ ). The exponentiation of the regression coefficient for the interaction between group discrimination and traditional Mexican cultural values was not statistically significant,  $e^{-.71} = .49$ ,  $p > .05$ .

***Adolescent report of sexual behavior.*** The negative binomial poisson regression model predicting adolescent sexual behavior from gender, family type, sexual behavior in 7<sup>th</sup> grade, perceived group discrimination, traditional Mexican cultural values and the perceived group discrimination X traditional Mexican cultural values interaction was statistically significant,  $X^2(6) = 25.27, p = .001$ . Adolescents from step-families tended to report more risky sexual behavior,  $b = .33, p < .05$ . The predictors were not statistically significant: perceived group discrimination ( $e^{.14} = 1.15, p > .05$ ) and traditional Mexican cultural values ( $e^{-.04} = .96, p > .05$ ). The exponentiation of the regression coefficient for the interaction between group discrimination and traditional Mexican cultural values was significant,  $e^{-.642} = .53, p = .003$ . In other words, the adolescent reported greater amounts of sexual behavior when they perceived more group discrimination, but this is the case only when the adolescent reports less endorsement of traditional Mexican cultural values (see Figure 1). When the adolescent reports greater endorsement of traditional Mexican cultural values, higher levels of discrimination do not yield riskier sexual behavior.

### **Hypothesis 2b**

Cultural values moderated the impact of perceived discrimination on only one outcome variable, sexual behavior, which was the only dependent variable used in the subsequent analyses. The follow-up analysis for Hypothesis 2b, which stated that familism will significantly contribute to any of the protective effects provided by traditional Mexican cultural values from the impact on mental health



and risky behaviors of perceived discrimination, involved three follow-up regressions in a sequential approach of removing each subscale (Table 7).

The negative binomial poisson regression model predicting adolescent sexual behavior from gender, family type, sexual behavior in 7<sup>th</sup> grade, perceived group discrimination, traditional cultural values sans gender roles, and the perceived group discrimination X cultural values interaction was statistically significant,  $X^2(6) = 26.50, p < .001$ . The exponentiation of the regression coefficient for this interaction between group discrimination and cultural values sans gender roles values was significant,  $e^{-.63} = .53, p = .002$ . To examine if this significant interaction remained, both traditional gender roles and religion subscales were dropped out of the cultural value measure. This model remained significant,  $X^2(6) = 24.35, p < .001$ , and demonstrated a significant interaction between perceived group discrimination and the familism/respect cultural values,  $e^{-.57} = .57, p = .006$ . The last step, removed all subscales except familism to determine if the interaction remained significant. The negative binomial poisson regression model predicting adolescent sexual behavior from gender, family type, sexual behavior in 7<sup>th</sup> grade, perceived group discrimination, traditional cultural values sans gender roles, and the perceived group discrimination X familism interaction was statistically significant,  $X^2(6) = 23.48, p = .001$ . The predictors were not statistically significant: perceived group discrimination ( $e^{-.18} = 1.19, p = .08$ ) and traditional Mexican cultural values ( $e^{-.05} = .95, p > .05$ ). The exponentiation of the regression coefficient for the interaction between group discrimination and familism values was significant,  $e^{-.558} = .57, p = .009$ . In other

words, the adolescent reported greater amounts of sexual behavior when they perceived more group discrimination, but this is the case only when the adolescent reports less endorsement of familism (see Figure 2).<sup>4</sup> When the adolescent reports greater endorsement of familism, higher levels of discrimination do not yield riskier sexual behavior.

### **Hypothesis 2c**

Familism moderated the impact of perceived discrimination on sexual behavior, hence the next two analyses explored Hypothesis 2c. Hypothesis 2c stated that if familism is a significant contributor to the protective effects of traditional Mexican cultural values from perceived group discrimination on behavioral adjustment, better overall relationships with mother and father may account for the protective effects. Thus, the follow-up analysis for Hypothesis 2c involved two negative binomial regressions with overall relationship with mother and overall relationship with father as separate moderators (Table 8).

The negative binomial poisson regression model predicting adolescent sexual behavior from gender, family type, sexual behavior in 7<sup>th</sup> grade, perceived group discrimination, father-child overall relationship, and the perceived group discrimination X father-child overall relationship interaction was statistically significant,  $X^2(6) = 19.45, p = .003$ . The predictors were not statistically significant: perceived group discrimination ( $e^{-1} = 1.12, p > .05$ ) and father-child overall relationship ( $e^{-02} = 1.02, p > .05$ ). The exponentiation of the regression coefficient for the interaction between group discrimination and father-child

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<sup>4</sup> A similar procedure was conducted for the other subscales. The respect and religion subscales also retained a significant interaction with perceived discrimination on sexual behaviors.

overall relationship values was significant,  $e^{-.20} = .82$ ,  $p = .05$ . As the adolescent perceives more group discrimination, they report riskier sexual behavior, but this is the case only when the adolescent reports lower overall relationship quality with the father (see Figure 3). When the adolescent reports a better (moderate to good), overall relationship quality with the father, higher levels of discrimination do not yield riskier sexual behavior.

The negative binomial poisson regression model predicting adolescent sexual behavior from gender, family type, sexual behavior in 7<sup>th</sup> grade, perceived group discrimination, mother-child overall relationship, and the perceived group discrimination X mother -child overall relationship interaction was statistically significant,  $X^2(6) = 21$ ,  $p = .002$ . The predictors were not statistically significant: perceived group discrimination ( $e^{.03} = 1.03$ ,  $p > .05$ ) and mother -child overall relationship ( $e^{.08} = 1.08$ ,  $p > .05$ ). The exponentiation of the regression coefficient for the interaction between group discrimination and mother-child overall relationship values was significant,  $e^{-.34} = .71$ ,  $p < .05$ . Similarly as the buffering effect of overall relationship with the father, the adolescent is protected from the risk-taking effects of perceived group discrimination on sexual behavior by having a better overall relationship with the mother (Figure 4). Adolescents that reported perceiving more group discrimination and a lower relationship quality with the mother reported riskier sexual behavior.<sup>5</sup>

### **Summary of Findings**

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<sup>5</sup> A negative binomial regression model with the three moderators: familism, father-adolescent relationship and mother-adolescent relationship showed a significant interaction only for familism,  $e^{-.16} = .85$ ,  $p < .05$ , and mother-adolescent relationship,  $e^{-.3} = .74$ ,  $p < .05$  ( $X^2(10) = 120.62$ ,  $p < .001$ ).

Hypothesis 1 was partially supported. Perceived group discrimination did not *directly* effect internalizing, externalizing or risky behaviors. However, perceived group discrimination related to sexual behavior when traditional cultural values were entered in the model as an interaction term. Hypothesis 2a was partially supported. Various endorsement levels of traditional Mexican cultural values interacted with different amount of perceived group discrimination. Low endorsement intensified the effects of perceived discrimination whereas high endorsement of cultural values decreased riskier sexual behavior. This indicates that the effects of perceived discrimination will vary depending on the heterogeneous context of the individual, in this case, the cultural context. Similarly, the follow-up analysis for Hypothesis 2b was supported. Familism (a subcategory of traditional Mexican cultural values) attenuated the effects of perceived group discrimination, in which high endorsement of familism related to decreased riskier sexual behavior (sequentially removing all other cultural value subscales). Hence, the subsequent follow-up analysis for Hypothesis 2c examined if parent-adolescent relationships moderate the impact of perceived group discrimination on sexual behaviors. Hypothesis 2c was supported, in which a better overall relationship with the father and the mother mitigated riskier sexual behaviors when adolescents reported perceiving more group discrimination. Overall, the findings indicate that traditional Mexican cultural values, particularly familism, moderate the relationship between perceived group discrimination and adolescent sexual behavior. Additionally, a

better overall mother-adolescent as well as father-adolescent relationship quality interacted with perceived group discrimination on risky sexual behavior.

## Chapter 4

### DISCUSSION

Overall, a growing body of literature suggests that ethnic minority adolescents use cultural strengths to help buffer the effects of perceptions of discrimination or other cultural stressors (Edwards & Lopez, 2006; Romero & Roberts, 2003b). The purpose of this study was to investigate the impact of perceived group based discrimination on adolescent mental health, externalizing behavior and risky behaviors in a MA sample. Cultural factors that moderate this relationship were also examined on three levels. First, traditional Mexican cultural values were posited to play a part in affecting the link between discrimination and adolescent outcomes (mental health, adjustment problems and risky behaviors). Second, endorsing the specific cultural values dimension of *familism* was suggested to be the driving force of significant moderation between perceived group discrimination and outcomes. And lastly, better overall relationships with mother and father were expected to be the behavioral manifestations that may moderate this relationship.

The results indicate that perceived group discrimination impacted an adolescent's functioning based on these cultural factors. A higher amount of perceived group discrimination in the present study associated with riskier sexual behavior with low endorsement of traditional Mexican cultural values, whereas individuals who highly endorsed traditional Mexican cultural values did not exhibit risky sexual behavior. Thus, the impact of perceived group discrimination on risky sexual behavior was attenuated by traditional Mexican cultural values,

specifically *familism*. In addition, better overall relationships with mother and father buffered the impact of high amounts of perceived group discrimination on adolescent risky sexual behavior.

### **Implications**

The results of this study provide support for the idea that the cultural setting and family relationships are important elements when adolescents are facing possible experiences with group based discrimination. The current work extends the body of research by focusing specifically on MA adolescents and perceived *group* discrimination rather than personal discrimination. A strong, traditional value orientation endorsing the supportive network of family is an important protective factor. The findings are consistent with theories that suggest cultural adaptation as an important process in the context of a culturally-linked stressor (e.g., Berkel et al., 2010). Additionally as predicted, the family context makes a difference in which the behavior comprising the value of caring familial relationships is also a protective factor.

The current findings imply that the relation between perceived group based discrimination and outcomes is complex, and may vary as a function of cultural factors. The current study also paints a more nuanced picture in addressing the contextualizing effects of traditional cultural values focusing on *familism* and the *quality* of family relationships in the link between discrimination and adolescent problem behavioral outcomes. Aside from past work that has alluded to the role of contextual support in attenuating the impact of discrimination on psychological functioning of adolescents, the present study, by

contrast, shows that the traditional cultural value of maintaining good, close relationships and actually having good, close relationships mitigate how perceived discrimination is experienced by adolescents.

The current findings interestingly suggest that adolescents experiencing social exclusion and not being adorned with affection in the home may be looking for love elsewhere. Engaging in sexual behaviors may be compensation for the strong family based values and relationships that protect others from the stressor of perceived group discrimination. These adolescents may be “looking for love” in the wrong places, particularly when they perceive that the world quells their group membership.

However, understanding how familism functions as a cultural asset in accordance with familial relationships needs to be explored. In order for the protective nature of these mechanisms to occur, must they occur together? Is resilience only achieved when the cultural setting provides a foundation for strong family relationships? Adolescents who endorse familism base the family as a relevant anchor for self-perception, which may promote positive self-regard and pride counteracting negative provocation outside the home. Endorsing familism may also yield effective ways to cope with intergroup dissension through the instilment of prioritizing interpersonal agreement.

The current work extends understanding of discrimination-related outcomes by illustrating the importance of the cultural and family context as it pertains to MA youth. Specifically, the discrimination experience depends upon the endorsement of traditional cultural values as well as the *quality* of family



relationships. The protective effect of these factors may not be mutually exclusive, in which both endorsement of strong family values and good quality familial relationships are necessary for resilience. Factors present in both value and behavior system of the home may counteract external stressors, and thus, be sufficient to alter the magnitude of adolescents' problem behavior in response to external challenges such as perceived discrimination. In a home socialized in traditional cultural values (i.e., familism) and not only characterized by those messages but existing positive family relations, adolescents may feel less afflicted by negative and differential treatment in the community.

### **Limitations**

Although the present information advances the study of ethnic discrimination in MA adolescents, there are several limitations that should be noted when interpreting the results of the present study. First, the design of the current study is observational and one cannot infer causality regarding relationships among perceived group discrimination, traditional cultural values, parent-child relationships, and problem behavior. Although several regression models tested prospective relations among the variables, different directional relationships may exist or more relevant variables would better explain the relationship among these variables. For instance, lower socioeconomic status may contribute to both a discriminatory environment and low quality familial relationships. Or perhaps an adolescent that has a depressed parent relates to the adolescents' depression, their lower rating of the quality of relationships and perceive greater amounts of marginalization. Thus, the present study

demonstrated that endorsement of traditional cultural values and better quality familial relationships play an important part in how discrimination *relates* to adolescent's problem behavior, but future work may determine how these variables causally relate each other.

Another limitation in the present study is the specific measure of group discrimination. The perception is compromised to self-report survey data, which does not provide direct observations of actual discrimination, but explicitly measures reported experiences, perceptions, and attitudes that involve discrimination. The problem is one can argue whether these perceptions are a reflection of the adolescents' temperament, attitude, or emotional state rather than actual discrimination experience. A hostile adolescent may have an antagonistic view of relationships and interpret other's actions as always being discriminatory.

Although the measure used is not an objective indicator of actual discrimination experiences and this possibility can not necessarily be ruled out with the present data, this method taps into how the adolescent feels he/she is impacted. Past work has demonstrated that self-reported personal and group discrimination is often *underestimated* or *underreported* based on the uncertainty in situational cues and the reluctance to claim discrimination because of interpersonal, social consequences (Crocker & Major, 1989; Inman, 2001; Kaiser & Miller, 2001; 2003; Shelton & Stewart, 2004). All things considered, perceptions of discrimination measured in a general manner appear to be adequately valid, keeping in mind that perceptions of certain individuals may be flawed by their attitudes or emotions. A related issue is the bias of shared method

variance. The majority of these measures were reported only by the adolescent (i.e., shared method), which may inflate the observed relationships between the variables. Although the current study focuses on the importance of knowing how the adolescent feels and their experiences, future work may incorporate other raters to corroborate reports and evade the bias in shared method variance.

The discussion of the developmental period of adolescence and perceptions of discrimination is also warranted. There may be a point where adolescents are beginning to develop strong group identifications (Phinney, 1990), however, they might not yet fully appreciate perceived group differences, nor distinguish between intergroup discrimination and non-group based biases. The items on the discrimination measure focused specifically ethnicity, so a degree of clarification might have been achieved in terms of what constitutes discrimination, but it is possible that their reported magnitude of discrimination might not be as accurate as that of older adolescents or adults. Despite the results suggesting a fair amount of discrimination was being reported, the levels reported may have been attenuated because of lack of participants' lack of experience in social situations where discrimination is more blatant. Perhaps, younger individuals do not know if certain experiences are discriminatory or do not acknowledge ambivalent discriminatory situations.

Lastly, the generalization of the results is limited to a specific sample of MA adolescents. Although the MA sample was representative of the MA population in terms of socioeconomic status, the adolescents also lived in an area where the Latino population is generally high and perceived discrimination may

be different in ethnically sparse areas. Future studies should investigate if MA adolescents have different discriminatory experiences living away from the border or more ethnic heterogeneous location.

### **Future Directions**

It is imperative that future studies examine the trajectories of perceived discrimination, familial relationship, as well as the cultural value affiliation shifts over a greater amount of time. Family and cultural processes are dynamic and malleable and future studies can develop a broader understanding regarding the evolving relationships between these variables. Similarly, other important variables should also be considered in future studies such as ethnic identity or parents' ethnic socialization of discrimination. Past research has shown that ethnic identity is crucial when examining ethnic discrimination, which can either serve as a coping mechanism against the psychological impact of discrimination with greater ethnic identification or greater identification with a stigmatized group may exacerbate the exposure to discrimination (Noh & Kasper, 2003). The process of parents' racial socialization also has been shown to decrease the effects of discrimination in a sample of African American youth (Garcia-Coll et.al., 1996).

Moreover, this study can also be extended to test different types of personal discrimination such as more overt negative versus ambivalent discriminatory experiences. Future work may detail the possible negative messages entailed and whether this varies according to the environment or even the propagator. One can also study the process of perceiving discrimination and whether some youth are more resistant to certain types of discrimination in order

to identify other protective factors that may serve to minimize the effects of discrimination and if these factors interact with family relationships. Researchers should also study how group discrimination plays into this relationship and test if broader social factors affect the adolescent and if family dynamics are strong enough to buffer the impact of general discrimination towards the ethnic group. Additionally, the amount of personal discrimination reported by parents to examine if their experiences affect their child's perceptions and outcomes should be examined. One can also compare the discrimination experience between the parents and child to understand if different perception and response processes occur.

Future studies may attempt to obtain a more global perspective of discrimination by asking individuals near the adolescent (i.e. mother, father, peers, teachers) about the discriminatory environment the individual is a part of and if the adolescent has experienced discrimination. Likewise, assessment of family variables may be reported separately by the parent or a combined report between the child and parent in order to achieve a global, unbiased report of relationships within the family.

Prospective studies may also examine the social support from peers and teachers as well as relations within the adolescents' community that may also mitigate the impact of discrimination. These social networks may provide an environment that bolsters the individual to move beyond the salience of discrimination and to experience fellowship and warmth for better developmental opportunities. Moreover, much of the previous research and the current study

have focused on mainstream domains of success. However, in consideration of culturally specific models, there may additional outcomes to explore that the Latino culture fosters as important. For example, cooperation with others is an important collective aspect that the Latino culture values and is important to consider as attainment of success.

## **Conclusions**

Understanding the contextual factors that influence the impact of discrimination will allow researchers to pursue relevant intervention practices for families. These preventive interventions may develop awareness of the interconnectedness between the adolescents' home life and the external environments. In this manner, understanding how the social environment interacts with what can affect the child will allow for culturally sensitive counseling.

The results have important implications for specifying interventions at the family level that practitioners and researchers can take into account when addressing factors associated with discrimination. In family programs, parents might learn to recognize the interconnectedness between the adolescents' home life and responses to external environmental challenges or support programs may include family sessions on dealing with discrimination. The specification of culturally adept parent-training and family programs in the MA population is needed in an effort to prevent or alleviate adolescents' mental health problems. The alleged understanding of the familial cultural factors impinging on Latino adolescents can lead to the use of strategies that can decrease the effects of discrimination and can be used as mechanisms in which MA youth may thrive. By

gaining an understanding of the personal and environmental determinants, preventive interventions may be preeminently planned to enhance the cultural attributes that serve as the key to healthy development in Latino adolescents.

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Table 1

Sample statistics of perceived discrimination studies with the Latino adolescent population.

Citation	N	Age or Grade	Ethnic background*	Generation Status	Location/region
Armenta (2009)	80	14–18 years	Latino		Southwest
Berkel (2010)	750	M = 10.42	Mexican American	70% US born	Southwest
Degarmo (2006)	278	6th - 12th grade	78% Mexican origin by Oregon		West
Edwards (2008)	73	11-15 years M = 13	86% Mexican origin	15% = 1 <sup>st</sup> ; 49% = 2 <sup>nd</sup> ; 16% = 3 <sup>rd</sup> ;	West
Fisher (2000) **	177 Black, White, Hispanic, Asian	13-19 years M = 16	23% Hispanic		Northeast
Flores (2010)	124 Mexican	13-15 years	Mexican origin		Southwest
Greene (2006)**	225	14-19 years	7% Puerto Rican; 44% other Latino		Northeast
Phinney (1995)**	60 Japanese, Mexican, Black	16-18 years M = 16	43% Mexican-American	US born	Southwest
Romero (2003a, b)	881	11-15 years M = 12.38	Mexican origin	18.7% Immigrant 77% US born	Southwest



Romero (2007 a, b)**	650 Latinos, White, Asian	8th grade Median = 14	58% Latino; 78% Mexican American	15% = 1st; 36% = 2 <sup>nd</sup> ; 49% =	Southwest
Rumbaut (1994)**	5264 Latino, Asian	12-17 years M = 14.2	66% Latino; 14% Mexican	1 <sup>st</sup> , 2 <sup>nd</sup> generation	West & South
Smokowski (2006/07)	273	M = 16.3 years	84% Mexican origin	72% US born	West & South
Stone (2005)	578	8 <sup>th</sup> - 9 <sup>th</sup> grade	Mexican American	2 <sup>nd</sup> generation	West
Szalacha (2003)**	STUDY 1: 391 STUDY 2: 248	M = 8.37; M = 14	Puerto Rican	70% US mainland; 50% US mainland	West
Umaña-Taylor (2007/08)	323	14-17 years M = 16.3	84% Mexican origin	72% US born	Midwest
Vega (1995)	2360	10-16 years	Multiethnic, 50% Cuban		
Wayman (2002)**	2409 Latino, White	7 <sup>h</sup> - 12 <sup>th</sup> grade	68% Latino	US born	West

\* Self identified unless otherwise stated. \*\* Sample includes multiple ethnic minority groups.

Table 2

Measures of Perceived Discrimination, and Outcomes for Latino Adolescents

Author	Items	Level		Outcomes				
		Personal	Group	Mental Health	Self Esteem	Conduct Behavior	Academic	
Armenta (2009)	2	x	x		x*			
Berkel (2010)	9	x		x*		x		x*
Degarmo (2006)	2	x	x**					x*
Edwards (2008)	11	x	x**	x*	x*			
Fisher (2000)	15	x		x*	x*			x*
Flores (2010)	14	x				x*		
Greene (2006)	14	x		x*	x*			
Phinney (1995)	1	x			x*			
Romero (2003a)	20	x	x**	x*				
Romero (2003b)	10	x	x**		x*			
Romero (2007a)	18	x	x**	x*				
Romero (2007b)	20	x	x**	x*		x*		
Rumbaut (1994)	2	x		x*	x*			
Smokowski (2006)	3	x	x**	x*		x*		
Smokowski (2007)	3	x	x**	x*	x*			
Stone (2005)	2	x						x*
Szalacha (2003)	2/9	x		x*	x*	x*		x*
Umaña-Taylor (2007)	5	x		x*	x*			
Umaña-Taylor (2000)	3	x			x*			
Vega (1995)	3	x	x**			x*		
Wayman (2002)	1		x					x*

\*  $p < .05$  \*\* Perceived personal and group discrimination were combined into one measure.

Table 3

Means, standard deviations, and range for predictor and outcome variables.

Predictors	N	Mean	SD	Range
Group Discrimination at T1	194	2.10	0.69	1 - 4
Group Discrimination at T2	149	2.26	0.59	1 - 3.8
Relationship (Mom) at T1	193	0*	0.87	-3.90 - .84
Relationship (Dad) at T1	194	0*	0.90	-2.55 - 1.04
Cultural Values at T1	194	4.01	0.49	1.45 - 4.88
Familism at T1	194	4.32	0.51	1.5 - 5
<b>Outcomes</b>				
Internalizing (Adolescent) at T1	194	0*	1.67	-2.7 - 5.86
Externalizing (Mom) at T1	194	30.51	6.37	20 - 50
Substance Use at T1	194	8.90	2.77	0 - 30
Sexual Behavior at T1	192	.34	1.79	0 - 12
Internalizing (Adolescent) at T2	149	0*	0.89	-1.49 - 2.13
Externalizing (Mom) at T2	151	30.24	7.00	20 - 50
Substance Use at T2	149	3.22	4.46	0 - 22
Sexual Behavior at T2	147	3.24	4.79	0 - 18

Table 4

Correlations among predictors and outcomes.

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Group discrimination at T1	1	.43*	-.09	-.14	-.11	-.12	.15	.12	.09	.26*	.17*	.20*	-.01	.02	.11
2. Group discrimination at T2		1	.06	.00	-.01	.04	.19*	.07	.04	.27*	.31*	.19*	.09	.10	.19*
3. Traditional Cultural Values at T1			1	.91*	.66*	.84*	.37*	-.01	.03	.08	-.04	-.21*	-.08	-.04	-.05
4. Familism subscale at T1				1	.58*	.76*	.07	-.01	.00	-.11	-.10	-.22*	-.04	-.06	-.07
5. Religion subscale at T1					1	.53*	-.02	-.17*	-.06	-.08	-.07	-.14	-.02	-.07	-.12
6. Respect subscale at T1						1	0.12	-.09	.02	-.17*	-.07	-.24*	-.15	-.04	-.08
7. Gender roles subscale at T1							1	.11	.10	.12	.16	.05	-.05	.08	.07
8. Mothers report of child's externalizing T1								1	.57*	.16	.24*	.01	.16	.05	.14
9. Mothers report of child's externalizing T2									1	.06	.33*	.01	.10	.11	.18*
10. Adolescent report of internalizing T1										1	.40*	.12	.14	.11	.04
11. Adolescent report of internalizing T1											1	.12	.29*	.19*	.18*
12. Substance Use at T1												1	.21*	.47*	.18*
13. Substance Use at T2													1	.32*	.57*
14. Sexual Behavior at T1														1	.21*
15. Sexual Behavior at T2															1

N = 143

\*Significant at  $p < .05$ .

Table 5

Hierarchical Regressions of Behavioral Problem Outcomes (Adolescent & Mother report) on Group Discrimination, and Traditional Mexican Cultural Values

Measure	Internalizing (Child =149)			Externalizing (Mother =149)		
	<i>B</i>	<i>SE B</i>	$\beta$	<i>B</i>	<i>SE B</i>	$\beta$
Step 1						
T1 Outcome	<b>.22**</b>	.04	.41	<b>.66**</b>	.08	.58
Gender	.14	.13	.08	<b>2.34*</b>	.96	.17
Family Type	<b>.30*</b>	.14	.16	-.01	.97	.00
Step 2						
T1 Outcome	<b>.22**</b>	.04	.40	<b>.67**</b>	.08	.59
Gender	.13	.13	.07	<b>2.45*</b>	.98	.18
Family Type	<b>.30*</b>	.14	.16	.03	.98	.00
Group Discr.	.05	.10	.04	-.31	.73	-.03
Cultural Values	.01	.15	.00	.46	1.04	.03
Step 3						
T1 Outcome	<b>.21**</b>	.04	.40	<b>.67**</b>	.08	.59
Gender	.13	.13	.07	<b>2.43*</b>	.98	.18
Family Type	<b>.30*</b>	.14	.16	.01	.98	.01
Group Discr.	.05	.10	.04	-.30	.73	-.03
Cultural Values	.01	.15	.00	.37	1.06	.02
Group Discr. X Cultural Values	.00	.07	.00	-.28	.08	-.04

*Note.* Raw and standardized regression coefficients are reported from the step in which they were entered. Significant raw coefficients are shown in bold (\* $p \leq .05$  \*\* $p \leq .01$ ). Model summary for Step 3 Internalizing behavior ( $F(6,144) = 12.07, p < .001, R^2 = .34$ ) and Step 3 Externalizing behavior, ( $F(6,144) = 12.07, p < .001, R^2 = .34$ ).

Table 6

Regressions of Risky Behaviors (Substance Use and Sexual Behaviors) on Group Discrimination, and Traditional Mexican Cultural Values.

Measure	Substance Use (Child=149)		Sexual Behavior (Child=145)	
	<b>B</b>	<i>SE B</i>	<b>B</b>	<i>SE</i>
T1 Outcome	.01	.01	.05	.04
Gender	-.07	.05	-.26	.14
Family Type	<b>.22**</b>	.05	<b>.33*</b>	.14
Group Discr.	-.04	.04	.15	.10
Cultural Values	-.05	.06	-.04	.15
Group Discr. X Cultural Values	-.05	.03	<b>-.22**</b>	.07

*Note.* Significant raw coefficients are shown in bold (\* $p \leq .05$  \*\* $p \leq .01$ ).

The overall model for substance use and cultural values,  $X^2(6) = 19.45, p = .003$ .

The overall model for sexual behavior and cultural values,  $X^2(6) = 21, p = .002$ .

Table 7

Sequential Regressions of Risky Sexual Behavior on Perceived Group Discrimination, and Traditional Mexican Cultural Value Subscales.

Measure	1. Cultural Values Sans Gender Roles		2. Cultural Values Sans Gender Roles & Religion	
	<i>B</i>	<b>SE B</b>	<i>B</i>	<i>SE B</i>
T1 Outcome	.04	.04	.05	.04
Gender	-.26	.14	-.27	.14
Family Type	<b>.36**</b>	.14	<b>.33*</b>	.14
Group Discr.	.16	.10	.18	.10
Cultural Values	-.07	.15	-.04	.15
Group Discr. X Cultural Values	<b>-.63**</b>	.20	<b>-.57**</b>	.20

Measure	3. Cultural Values Sans Gender Roles, Religion, Respect (i.e., only Familism)	
	<i>B</i>	<i>SE B</i>
T1 Outcome	.06	.04
Gender	<b>-.27*</b>	.14
Family Type	<b>.32*</b>	.14
Group Discr.	.18	.10
Familism	-.04	.16
Group Discr. X Familism	<b>-.19**</b>	.07

*Note.* Significant raw coefficients are shown in bold (\* $p \leq .05$  \*\* $p \leq .01$ ).

1. The overall model for substance use and cultural values sans gender roles,  $X^2(6) = 26.50, p < .001$ .

2. The overall model for sexual behavior and cultural values sans gender roles and religion,  $X^2(6) = 24.35, p < .001$ .

3. The overall model for sexual behavior and familism,  $X^2(6) = 23.48, p = .001$ .

Table 8

Follow-up hierarchical Regressions Sexual Behaviors on Group Discrimination, and Overall relationship with Father and Mother.

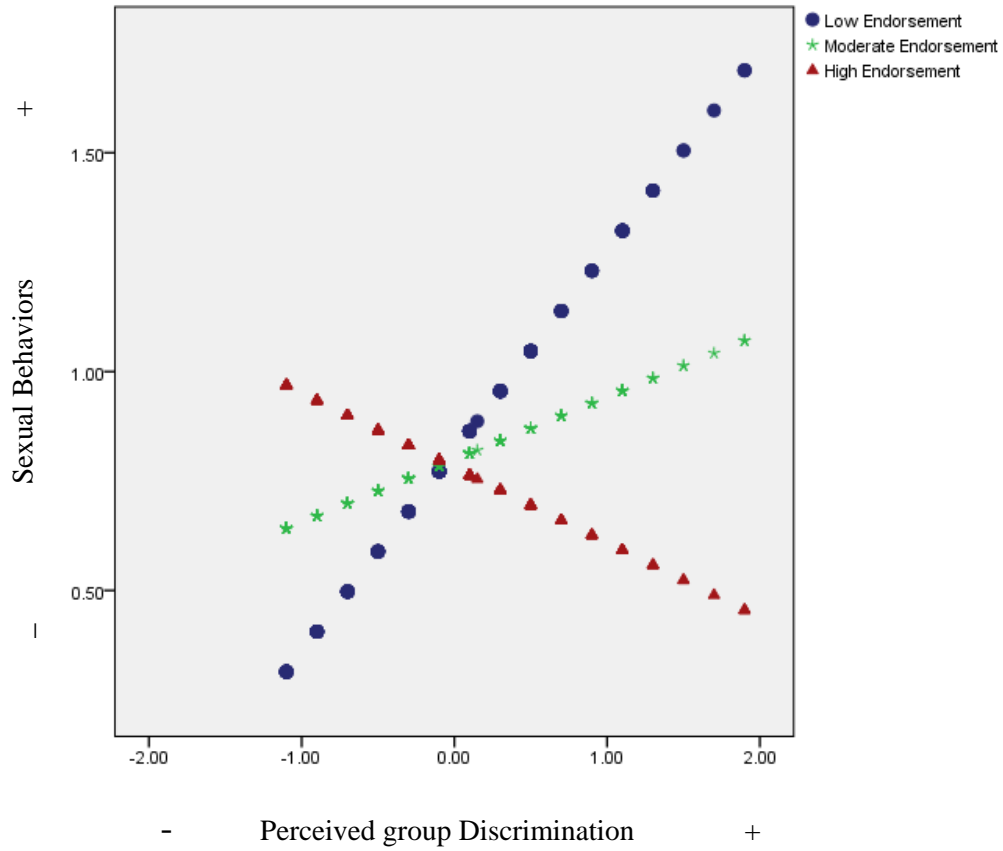
Measure	Sexual Behavior (Child=145)	
	<b>B</b>	<i>SE B</i>
T1 Outcome	.07	.04
Gender	<b>-.29*</b>	.14
Family Type	<b>.32*</b>	.14
Group Discr.	.10	.11
Father-Child Relationship	.02	.10
Group Discr. X Father-Child Relationship	<b>-.20*</b>	.10
T1 Outcome	.07	.04
Gender	<b>-.32*</b>	.52
Family Type	<b>.33*</b>	.14
Group Discr.	.03	.11
Mother-Child Relationship	.08	.10
Group Discr. X Mother-Child Relationship	<b>-.34**</b>	.07

Note. Significant raw coefficients are shown in bold (\* $p < .05$  \*\* $p < .01$ ).

The overall model for overall relationship with father,  $X^2(6) = 19.45, p = .003$ .

The overall model for overall relationship with mother,  $X^2(6) = 21, p = .002$ .





*Figure 1.* Simple slopes for significant interaction between perceived group discrimination and traditional cultural values on sexual behaviors.

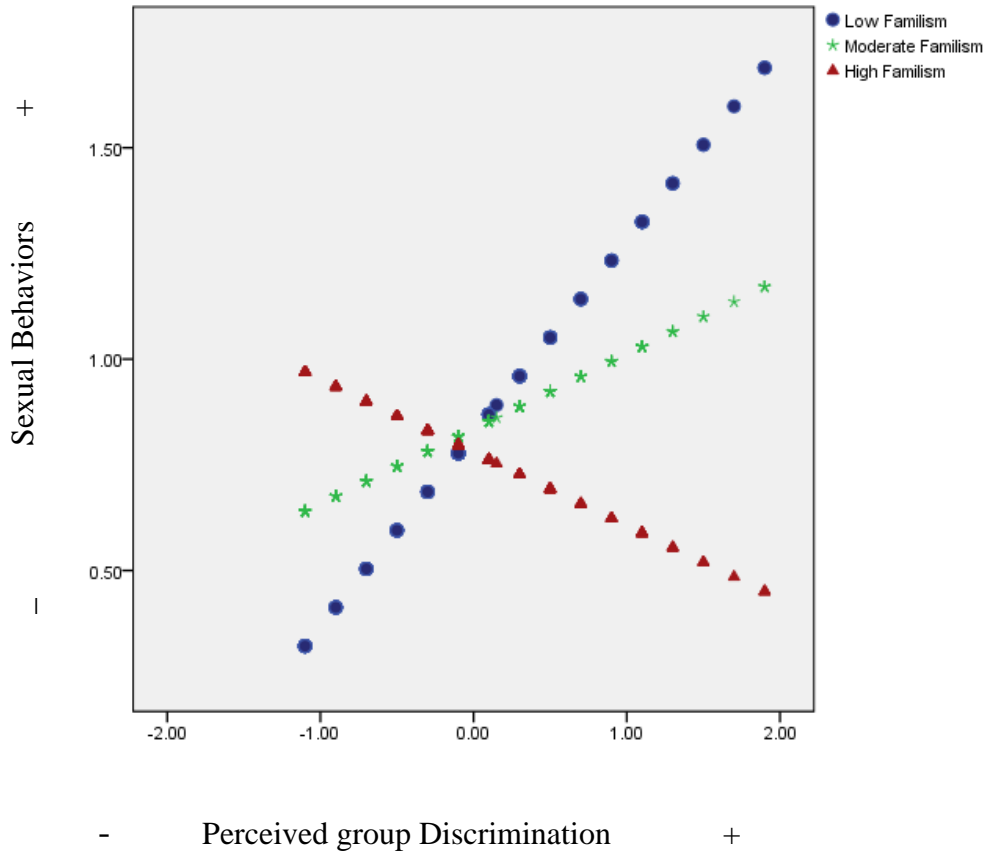
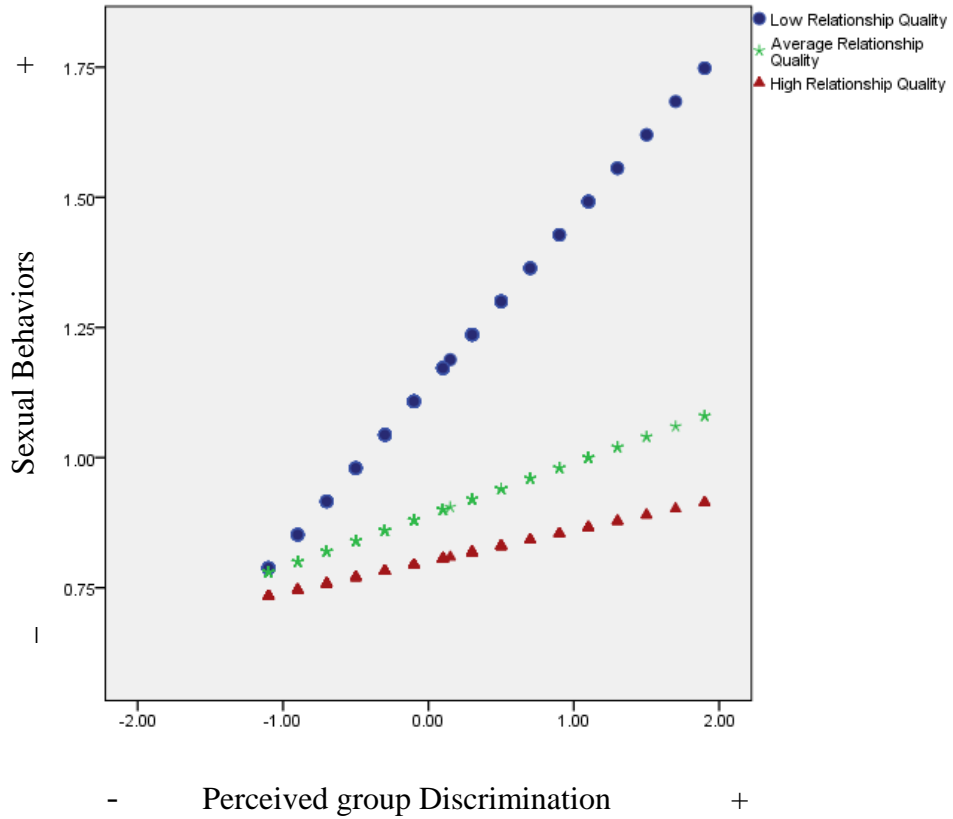


Figure 2. Simple slopes for significant interaction between perceived group discrimination and familism on sexual behaviors.



*Figure 3.* Simple slopes for significant interaction between perceived group discrimination and father-adolescent overall relationship quality on sexual behaviors.

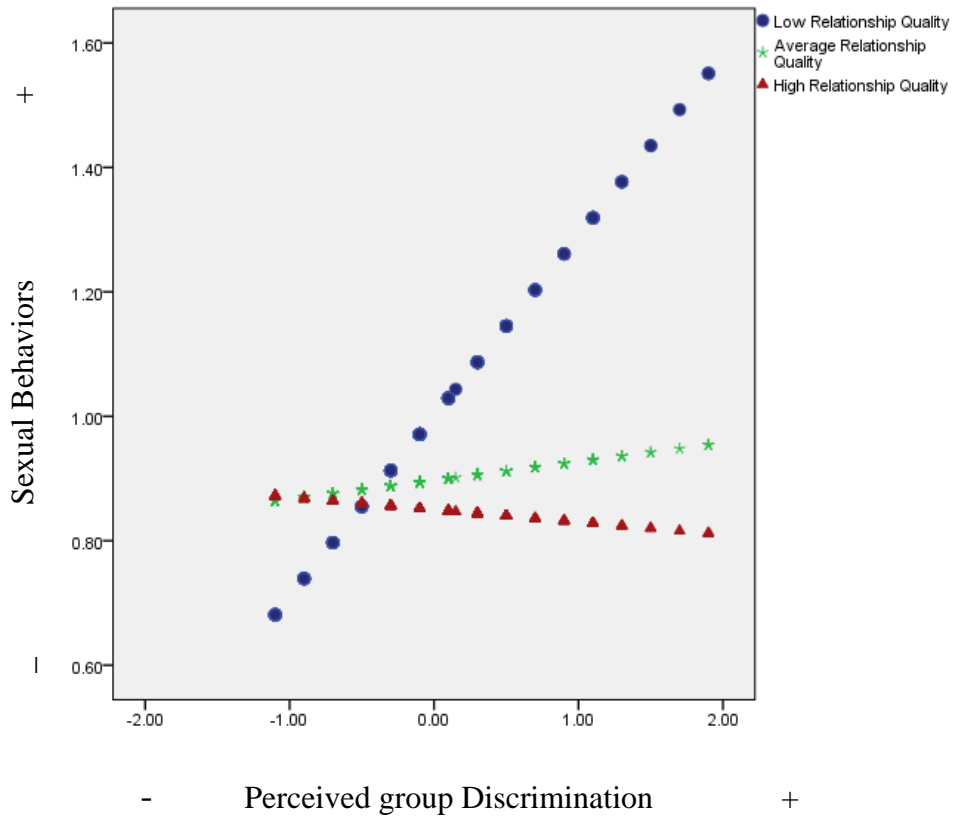


Figure 4. Simple slopes for significant interaction between perceived group discrimination and mother-adolescent overall relationship quality on sexual behaviors.

APPENDIX  
SURVEY MEASURES

**GROUP DISCRIMINATION**  
*Adolescent Report*

**Subject Instructions:**

*Now I will read statements about how people are treated by others. Look at list 62 and tell me how much you agree with each statement.*

Item Text
1. Many employers in this area refuse to hire people because they are Mexican or Mexican American.
2. Most teachers in the schools here pay more attention to Anglo (White) children than to Mexican or Mexican- American children.
3. People who work for public agencies in this town (like welfare, social security, and health clinics) are more concerned about Anglos (Whites) than Mexicans or Mexican-Americans.
4. In this town, Mexican and Mexican-Americans have to work a lot harder to get ahead, than Anglos (Whites).
5. The police do not respect Mexicans or Mexican- Americans as much as they do Anglos (Whites).

Answer	Value
Strongly Disagree	1
Disagree	2
Agree	3
Strongly Agree	4
Don't Know	9

All items are coded so that higher values represent higher levels of group discrimination.

**MEXICAN AMERICAN CULTURAL VALUES SCALE (MACVS)**  
*Adolescent Report*

**Subject Instructions:**

*The next statements are about what people may think or believe -- we'd like your opinion. Remember, there are no right or wrong answers. Look at list 61 now and give me the answer that best represents your opinion.*

<b>Subscale</b>	<b>Item Text</b>
RELIGION	1. God is first; family is second.
GENDER ROLES	2. Men and women have different roles in life that they should continue to live by.
RESPECT	3. Children should not talk back to adults or other authority figures.
FAMILISM-SUPPORT	4. Parents should teach their children that the family always comes first.
FAMILISM-OBLIGATIONS	5. Children should be taught that it is their duty to care for their parents when their parents get old.
FAMILISM-REFERENT	6. Children should always do things to make their parents happy.
RESPECT	7. No matter what, children should always treat their parents with respect.
FAMILISM-SUPPORT	8. Family provides a sense of security because they will always be there for you.
FAMILISM-OBLIGATIONS	9. If a relative is having a hard time financially, you should help them out if you can.
FAMILISM-REFERENT	10. When it comes to important decisions, the family should seek advice from close relatives.
GENDER ROLES	11. Men should earn most of the money for the family so women can stay home and take care of the children and the home.
RESPECT	12. Children should never question their parents' decisions.
RELIGION	13. My belief in God gives me inner strength and gives meaning to life.
GENDER ROLES	14. Families need to watch over and protect teenage girls more than teenage boys.
FAMILISM-SUPPORT	15. It is always important to be united as a family.
FAMILISM-REFERENT	16. A person should be embarrassed about the bad things done by (his/her) relatives.
FAMILISM-RESPECT	17. Children should always honor their parents and never say bad things about them.
RELIGION	18. If everything is taken away, I still have my faith in God.
FAMILISM-	19. It is important to have close relationships with

SUPPORT	aunts/uncles, grandparents and cousins.
FAMILISM-OBLIGATIONS	20. Older kids should take care of and be role models for their younger brothers and sisters.
FAMILISM-REFERENT	21. Children should be taught to always be good because they represent the family.
RESPECT	22. Children should follow the rules of their parents, even if they think the rules are unfair.
GENDER ROLES	23. It is important for the man to have more power in the family than the woman.
RELIGION	24. It is important to thank God everyday for all we have.
FAMILISM-SUPPORT	25. Holidays and celebrations are important because the whole family comes together.
FAMILISM-OBLIGATIONS	26. Parents should be willing to make great sacrifices to make sure their children have a better life.
FAMILISM-REFERENT	27. A person should always think about their family when making important decisions.
GENDER ROLES	28. Mothers are the main person responsible for raising children.
FAMILISM-RESPECT	29. It is important to show respect to everyone, even if they're not family.
FAMILISM-SUPPORT	30. It is important for family members to show their love and affection to one another.
FAMILISM-REFERENT	31. It is important to work hard and do your best because your work reflects on the family.
GENDER ROLES	32. A wife should always support her husband's decisions, even if she doesn't agree with him.

NOTE: No items were reverse coded

Answer	Value
Strongly Disagree	1
Somewhat Disagree	2
Neither Agree Nor Disagree	3
Somewhat Agree	4
Strongly Agree	5



**OVERALL PARENT-CHILD RELATIONSHIP**  
*Adolescent Report*

**Subject Instructions:**

Now we would like to ask you about your mom and your relationship with her.

Item Text	Reverse Code
1. How well do you get along with your mother?	R
2. What kind of relationship do you have with your mother?	

Question #1:

Answer	Value
Extremely well	1
Pretty well	2
Just okay	3
Not too well	4
Not well at all	5
NA, NO CONTACT	8*
DON'T KNOW	9*

Question #2:

Answer	Value
The worst	1
Very bad	2
Not too good	3
Just okay	4
Good	5
Very good	6
The best	7
Don't know*	9*

Note: Questions were repeated for father.

## INTERNALIZING BEHAVIORS

### Modified Revised Manifest Anxiety Children's Scale (RCMAS) *Adolescent Report*

**Subject Instructions:**

We'd like to know how you have been feeling during the past month. Just tell me yes or no whether you have felt the way I describe.

Item Text	Reverse Code
1. In the past month you got mad easily.	R
2. In the past month you felt that others did not like the way you did things.	R
3. In the past month your feelings got hurt easily.	R
4. In the past month you worried about what was going to happen.	R
5. In the past month other peers were happier than you were.	R
6. In the past month you woke up scared some of the time.	R

Answer	Value
Yes	1
No	2

NOTE: prior to recode for reverse items

All items are coded so that higher values represent higher levels of anxiety.

### Child Depression Inventory (CDI) *Adolescent Report*

**Subject Instructions:**

*I'd like you to think about the past month. Look at each list. I'll read you these statements and I want you to tell me which statement comes closest to how you have felt. Here's the first one. In the past month...*

## Item 121

Answer	Value
Things bothered me all the time.	1
Things bothered me many times.	2
Things bothered me once in a while.	3

## Item 122

Answer	Value
I could not make up my mind about things.	1
It was hard to make up my mind about things.	2
I made up my mind about things easily.	3

## Item 123

Answer	Value
I looked OK.	1
There were some bad things about my looks.	2
I looked ugly.	3

## Item 124

Answer	Value
I had trouble sleeping every night.	1
I had trouble sleeping many nights.	2
I slept pretty well.	3

## Item 125

Answer	Value
I did not think about killing myself	1
I thought about killing myself but would not do it	2
I wanted to kill myself	3

## Item 126

Answer	Value
I did not feel alone.	1
I felt alone many times.	2
I felt alone all the time.	3

Item 128

Answer	Value
I could never be as good as other kids.	1
I could be just as good as other kids if I wanted to.	2
I was just as good as other kids.	3

**EXTERNALIZING BEHAVIOR PROBLEM SCALE**  
*Mother Report*

**Subject Instructions:**

*I am going to read statements about behavior problems many children have. As I read each sentence, decide which best describes (child's) behavior over the LAST THREE MONTHS.*

Item Text
1. (He/she) had sudden changes in mood or feeling
2. (He/she) was rather high strung, tense, and nervous.
3. (He/she) cheated or told lies.
4. (He/she) was too fearful or anxious.
5. (He/she) argued too much.
6. (He/she) had difficulty concentrating, could not pay attention for long.
7. (He/she) was easily confused, seemed to be in a fog.
8. (He/she) bullied or was cruel or mean to others.
9. (He/she) was disobedient at home.
10. (He/she) had trouble getting along with other children.
11. (He/she) was impulsive, or acted without thinking.
12. (He/she) was not liked by other children.
13. (He/she) had a lot of difficulty getting (his/her) mind off certain thoughts (had obsessions).
14. (He/she) was restless or overly active, could not sit still.
15. (He/she) was stubborn, sullen or irritable.
16. (He/she) had a very strong temper and lost it easily.
17. (He/she) was unhappy, sad, or depressed.
18. (He/she) broke things on purpose or deliberately destroyed (his/her) own or another's things.
19. (He/she) was disobedient at school.
20. (He/she) had trouble getting along with teachers.

NOTE: prior to recode for reverse items

Answer	Value
Often true	1
Sometimes true	2

Never true	3
------------	---

**SUBSTANCE USE**  
*Adolescent Report*

**Subject Instructions:**

*Now we'd like you to answer some questions about the use of different types of substances.*

Item Text	Reverse Score
The next questions ask about drinking alcohol. This includes drinking beer, wine, wine coolers and liquor such as tequila, rum, gin, vodka, whiskey. For these questions, drinking alcohol does not include drinking a few sips of wine for religious purposes. If you have ever had more than a few sips of alcohol, how old were you when you first drank that much alcohol?	R
During the past 30 days, on how many days did you have at least one drink of alcohol?	
If you have ever tried marijuana (pot, weed, grass, hash, etc.), how old were you when you tried it for the first time?	R
During the past 30 days, how many times did you use marijuana?	
If you have ever tried any form of cocaine, including powder, crack, or freebase, how old were you when you tried it for the first time?	R
During the past 30 days, how many times did you use any form of cocaine, including powder, crack, or freebase?	
If you have ever used ANY OTHER TYPE OF ILLEGAL DRUG, such as LSD, PCP, ecstasy, mushrooms, speed, ice, heroin, or pills without a doctor's prescription, how old were you when you used them for the first time?	R
During the past 30 days, how many times did you use ANY OTHER TYPE OF ILLEGAL DRUG, SUCH AS LSD, PCP, ecstasy, mushrooms, speed, ice, heroin, or pills without a doctor's prescription?	

Item values varied per question.

## SEXUAL BEHAVIOR

### *Adolescent Report*

**Subject Instructions:**

*Now we'd like you to answer these questions about your relationships with boyfriends or girlfriends.*

Item Text	Reverse Code
Have you ever had sexual intercourse (made love, gone all the way)?	R
If you and a partner HAVE ever had sexual intercourse (made love, gone all the way): How old were you when you first had sexual intercourse?	R
DURING THE PAST YEAR, how many different partners have you had sexual intercourse with?	
If you and a partner HAVE ever had sexual intercourse (made love, gone all the way): DURING THE PAST YEAR, how often have you and/or your partner used some form of contraception (for example: condom/rubber; birth control pill...)?	R

Item values varied per question.87