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Ethnic Identity and Gender as Moderators of the Association between Discrimination and Academic Adjustment among Mexican-origin Adolescents

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Abstract

Existing work has identified perceived discrimination as a risk factor that may contribute to the relatively poorer academic outcomes exhibited by Mexican-origin adolescents in the U.S. The current study examined the longitudinal associations among perceived discrimination and three indices of adolescent adjustment in the school setting (i.e., grade point average, teacher reports of externalizing, adolescents' deviant peer associations) among 178 Mexican-origin adolescents (53% female). Ethnic identity affirmation was examined as a protective factor expected to reduce the negative effects of discrimination on adolescents' adjustment, and gender was examined as a potential moderator of the associations of interest. Findings indicated that the deleterious effects of discrimination on adolescents' adjustment in school were particularly salient for Mexican-origin male adolescents. Importantly, ethnic identity affirmation emerged as a protective factor for Mexican-origin male adolescents by buffering the negative effects of discrimination on their externalizing behaviors in school.

Keywords

Ethnic identity; Latino; discrimination; academic adjustment

Graduating from high school and attending college represent important milestones during adolescence and emerging adulthood that are strongly linked to access to tangible resources (e.g., gainful employment, higher income) in adulthood. For example, in 2008 the unemployment rate in the U.S. for those who had not completed high school was 13%, compared to 6.8% for those who had only completed high school, and 2.3% for those who had completed at least a bachelor's degree (Aud, Fox, & KewalRamani, 2010). Given these associations, it is disconcerting that certain ethnic minority groups are disproportionately at greater risk for negative academic outcomes. Mexican-origin adolescents represent one such group. For instance, educational statistics from 2008 indicate that the high school dropout rate¹ for individuals between the ages of 16 and 24 in the U.S. was 18.3% for Latinos, which

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¹These statistics represent the status dropout rate, which is defined as individuals who are not enrolled in high school and do not have a high school credential

is almost double the rate for Blacks (9.9) and over triple the rate for Whites (4.8; Chapman, Laird, & KewalRamani, 2010). Scholars have long theorized about risk factors specific to ethnic minority youth, such as experiences with discrimination, which can undermine successful developmental and academic outcomes (García Coll et al., 1996; Suárez-Orozco & Suárez-Orozco, 1995). Furthermore, studies have documented that Mexican-origin adolescents' experiences with discrimination are associated with indices of maladjustment, such as greater depressive symptoms (Umaña-Taylor & Updegraff, 2007), lower self-esteem (Edwards & Romero, 2008), and lower academic motivation (Alfaro, Umaña-Taylor, Gonzales-Backen, Bámaca, & Zeiders, 2009). Because experiences with discrimination may contribute to the relatively poorer academic outcomes among Mexican-origin adolescents, it is important to examine how discrimination settings and to identify factors that may buffer the negative impact of discrimination.

Grounded in a risk and resilience framework, which posits that individuals may possess resources that can help them overcome the risks associated with adverse experiences (Masten & Coatsworth, 1998; Rutter, 1987), the current study contributed significantly to the extant literature by testing the conceptual notion that cultural strengths may protect ethnic minority adolescents from the negative effects of cultural stressors (e.g., Gonzales & Kim, 1997). Specifically, we examined whether ethnic identity affirmation would minimize the negative effect of perceived discrimination on three indices of adolescents' adjustment in the academic setting: teacher reports of externalizing behaviors, school-reported grade point average (GPA), and adolescent reports of deviant peer associations in school. Although a few studies have examined the association between perceived discrimination and academic outcomes, to our knowledge, no studies have examined whether *ethnic identity affirmation* reduces the negative impact of perceived discrimination on Mexican-origin adolescents' academic outcomes.

Mexican-origin Adolescents' Experiences with Discrimination and Adjustment

Scholars suggest that to gain a more complete understanding of ethnic minority youth's normative development, it is necessary to understand the influence of discrimination in their lives (García Coll et al., 1996). As previously noted, numerous studies have documented the salience of perceived discrimination among Mexican-origin adolescents (e.g., Berkel, Knight, Zeiders, Tein, Roosa, Gonzales, & Saenz, 2010; Delgado, Updegraff, Roosa, & Umaña-Taylor, 2011; Romero & Roberts, 2003; Stone & Han, 2005). Given the increased importance placed on others' perceptions of the self during early to middle adolescence (Erikson, 1968; Harter, 1999), understanding how others' biases based on one's ethnic background (i.e., discrimination) are associated with adolescents' adjustment is especially relevant during this developmental period. According to social identity theory (Tajfel, 1981), experiences in which one's social group is devalued can threaten one's self-concept, lead to negative self-perceptions, and affect one's mental health. Existing empirical work has provided support for these theoretical notions. For example, in a study of Mexican-origin adolescents, higher levels of perceived discrimination were associated with lower self-esteem (Romero & Roberts, 2003). Similarly, with a Latino sample comprised primarily of Mexican-origin adolescents, Umaña-Taylor and Updegraff (2007) found higher levels of perceived discrimination to be associated with lower self-esteem and higher depressive symptoms. Finally, in a longitudinal study of Mexican-origin early adolescents, Berkel et al. (2010) found that perceived discrimination predicted increases in anxiety and depression over a two-year period.

Similar associations have emerged in the few studies that have examined Mexican-origin adolescents' perceptions of discrimination and their *academic* outcomes. For example, with

a Latino sample comprised primarily of Mexican-origin adolescents, DeGarmo and Martinez (2006) found higher levels of perceived discrimination to be associated with lower levels of academic well-being (defined by GPA, likelihood of dropout, homework frequency, and performance dissatisfaction). In addition, in their longitudinal study of Mexican-origin adolescents, Berkel and colleagues (2010) found that adolescents' perceived discrimination in 5th grade predicted decreases in academic self-efficacy and teacher-reported grades two years later. Based on their longitudinal work with immigrant adolescents (including those of Mexican-origin), Suárez-Orozco and colleagues found the link between discrimination and academic outcomes to be explained by the stress that adolescents experience as a result of perceiving discrimination, which may undermine their ability to concentrate and focus on their school work (Suárez-Orozco, Suárez-Orozco, & Todorova, 2008). Taken together, findings from this literature suggest that adolescents' perceptions of discrimination may create a context in which their self-concept is threatened, they are unable to remain focused on academic goals, and their mental health and academic performance suffers. Although discrimination is a salient reality for Mexican-origin adolescents and has been consistently associated with maladjustment, it is important to note that there are many Mexican-origin adolescents who demonstrate resilience by succeeding in the academic setting. Thus, consistent with a risk and resilience perspective (Masten & Coatsworth, 1998; Rutter, 1987) and scholars' recommendations to consider how culturally-based strengths may serve protective functions (Case & Robinson, 2003), the current study examined whether ethnic identity affirmation would protect Mexican-origin adolescents from the negative effects of perceived discrimination on adjustment in their academic settings.

Ethnic Identity Affirmation as a Protective Factor

Although culturally informed stressors such as discrimination have been identified as a significant risk factor for Mexican-origin adolescents, scholars suggest that culturally specific mechanisms may protect minority children from the negative effects of such stress (Gonzales & Kim, 1997). For instance, ethnic identity² has been argued to serve as a protective resource that enables individuals to be resilient when encountering discrimination (Phinney, 2003), and empirical support for this notion has been documented (e.g., Romero & Roberts, 2003). At the broadest level, ethnic identity has been conceptualized as a normative developmental process that involves exploration of one's ethnic background, forming firm commitments regarding the meaning of one's ethnicity, and affirmation of one's ethnic group membership (Phinney, 1992; Umaña-Taylor, Yazedjian, & Bámaca-Gomez, 2004). In recent work, the individual components of ethnic identity have been found to be distinctly related to adolescent outcomes and scholars have encouraged researchers to examine the components of ethnic identity independently and, importantly, to be specific about the unique aspect of ethnic identity under study (e.g., Supple et al., 2006; Umaña-Taylor et al., 2004). We focus our attention on ethnic identity affirmation (i.e., positive feelings and attachment toward one's group; Umaña-Taylor et al., 2004) in the current study, based largely on notions from social identity theory, which suggests that a positive sense of group membership may facilitate individuals' ability to maintain a positive sense of self in the face of threat (Tajfel & Turner, 1986). Specifically, ethnic identity affirmation may protect against the harmful effects of discrimination such that the positive feelings adolescents have toward their ethnic group may make discriminatory actions seem unfounded and, therefore, ineffectual. Indeed, theoretical work advanced with African American adolescents, but applied to other ethnic minority groups such as Latinos, supports the notion that experiences with discrimination can have adverse consequences for minority

²The term "ethnic identity" is used when research being reviewed is not specific about one ethnic identity component, and the term "ethnic identity affirmation" is used when research is specifically focused on the affective component (or positive feelings) of one's ethnic identity.

adolescents, but these risks can be offset by cultural resources that enable productive coping (Spencer, Fegley, & Harpalani, 2003). Examining the extent to which ethnic identity affirmation reduces the negative impact of discrimination on adolescents' adjustment is consistent with scholars' recommendations to move beyond correlational and descriptive analyses, and instead examine the mechanisms by which discrimination is linked to youth adjustment (e.g., Pachter & García Coll, 2009).

A few existing studies have documented the protective function that ethnic identity affirmation serves for Mexican-origin adolescents' global self-esteem and engagement in risky behaviors. For example, in a study of Mexican-origin adolescents, Romero and Roberts (2003) found that the negative association between discrimination and self-esteem was significantly weaker among adolescents who scored higher on measures of ethnic identity affirmation compared to those with relatively lower affirmation scores. Similarly, Umaña-Taylor, Updegraff, and Gonzales-Backen (2011) studied Mexican-origin adolescent mothers and found that the positive association between discrimination and engagement in risky behaviors was significantly weaker among those with high ethnic identity affirmation than those who endorsed low levels of affirmation. Umaña-Taylor and colleagues suggested that the positive feelings adolescents have about their group, as represented in their high levels of ethnic identity affirmation, may motivate them to find productive ways of coping with culturally informed stressors (rather than turning to deviant peers) in an effort to *not* contribute to existing negative stereotypes about their group. Furthermore, they proposed that adolescents' high endorsement of affirmation toward their ethnic group may facilitate their navigation of the environment by providing them with positive strategies for coping with culturally informed stressors (e.g., discussing negative experiences with parents or mentors), which may minimize the negative effects of this risk factor on their psychosocial functioning. Finally, in an ethnographic study of Mexican-origin adolescents, researchers found that resilient adolescents were guided and bolstered by traditional Mexican values that strengthened their ethnic identity and, in turn, served as a protective factor in times of stress (Holleran & Waller, 2003). Together, these studies provide support for the protective function that ethnic identity affirmation can serve for Mexican-origin adolescents who face discrimination.

Research that has examined ethnic identity as protective for Mexican-origin adolescents' *academic* outcomes, however, is scarce. Findings from a qualitative study of Mexican-origin college students at a prestigious university suggest that a similar protective mechanism may be in place when academic outcomes are examined. Specifically, Arellano and Padilla (1996) identified ethnic identity as an important protective factor for the resilient high-achieving students in their study. Although this work was based on a sample of 30 Latino students and not intended for generalization, the findings suggest that the protective effects of ethnic identity may also apply to academic outcomes. Thus, the current study will make a significant contribution to the literature by extending the field's understanding of the protective effects of ethnic identity on Mexican-origin adolescent adjustment to the academic realm, an area that has critical implications for preventive intervention work due to Mexican-origin adolescents' relatively greater risk for poor academic outcomes.

Adolescent Gender as a Moderator

Finally, the current study also will examine adolescent gender, an important demographic factor that could introduce significant variability into these associations. Existing studies have noted significant gender differences in the associations between discrimination and adjustment among Mexican-origin adolescents. For instance, in a study of Latino adolescents who were largely of Mexican descent, discrimination was a significant longitudinal predictor of male adolescents' academic success, but not female adolescents'

(Alfaro et al., 2009). Similarly, Delgado and colleagues (2011) found that perceived discrimination was significantly associated with increased engagement in risky behaviors among Mexican-origin male adolescents but not among their female counterparts. Also worthy of note, researchers have documented that boys and girls exhibit different reactions to stress, with boys tending to display more externalizing behaviors and girls tending to display more internalizing behaviors (Kempton, Armistead, Wiersen, & Forehand, 1991; Martinez & Semrud-Clikeman, 2004). As such, the current study would be remiss if gender were not taken into account.

Potential variability due to gender may be particularly important to consider when studying Mexican-origin adolescents, given the documentation of considerable differences in the gender socialization experiences of boys and girls in Latino families (e.g., Azmitia & Brown, 2000; Valenzuela, 1999). For instance, scholars suggest that Latino parents tend to socialize their boys more toward extrafamilial environments and experiences, whereas Latina girls tend to be socialized more toward staying close to the home and family environment (Raffaelli & Ontai, 2004; Ramirez, 1989). Researchers have suggested that the greater freedom and encouragement that boys experience with respect to navigating the extrafamilial context may partially explain why boys' adjustment is more strongly influenced by perceived discrimination than girls', given that discrimination is generally experienced outside of the family context (Alfaro et al., 2009). Furthermore, because boys may be defining themselves and evaluating their self-worth based on this extrafamilial context that they are relatively more free to explore (Bámaca, Umaña-Taylor, Shin & Alfaro, 2005), perceiving discrimination in that context may be particularly detrimental for their adjustment when compared to girls (Alfaro et al., 2009). These ideas are consistent with findings described above, in which the deleterious effects of discrimination have emerged more consistently for males than females. Given this previous work, we hypothesized that the associations between discrimination and Mexican-origin adolescents' adjustment would be significantly stronger for male adolescents than their female counterparts.

The Current Study

The current study examined the association between perceived discrimination and adolescents' academic adjustment, drawing on three distinct operational perspectives. Adolescents self reported on their association with deviant peers in school, teachers reported on adolescents' externalizing behavior in school, and school archival records were used to assess adolescents' grades. Our focus on these three indicators stems from literature that has identified externalizing behaviors and academic failure as key indicators of a broader construct of adolescent problem behavior (Ary, Duncan, Biglan, Metzler, Noell, & Smolkowski, 1999) and has documented that associations with deviant peers can increase adolescents' risk for poor developmental outcomes, including academic outcomes (Ary et al., 1999; Hartup & Stevens, 1999; Urdan, 1997). Furthermore, because each type of data captures a different facet of academic outcomes, findings can provide a more nuanced examination of adolescents' academic adjustment.

We focused on adolescents undergoing the transition to middle school because this has been documented as a particularly vulnerable developmental period for school disengagement and declining grades among ethnic minority adolescents (Eccles & Roeser, 2003). In addition, given significant gender differences that have emerged in the associations between discrimination and adolescents' adjustment (e.g., Delgado et al., 2011), gender was also examined as a moderator of the associations of interest in the current study. Finally, because significant differences have emerged in previous work between immigrant and U.S. born adolescents with respect to academic motivation and success (e.g., Fuligni, 1997),

adolescent nativity was included as a covariate in all analyses. Nativity was not tested as a moderator because the sample size for specific nativity groups was too small.

Based on existing conceptual and empirical work, we hypothesized that higher perceived discrimination would predict more negative academic adjustment (i.e., greater externalizing, lower GPA, more deviant peer associations). Consistent with a risk and resilience framework, we also hypothesized that ethnic identity affirmation would moderate the association between perceived discrimination and each index of adjustment in the school setting, with the expectation that the association would be significantly weaker among adolescents who endorsed higher levels of ethnic identity affirmation. Finally, based on previous findings (e.g., Alfaro et al., 2009), we expected that the associations between discrimination and adjustment would be significantly stronger for males than females.

Method

Participants

The sample for the current study was drawn from the control group of a larger efficacy trial of the Bridges to High School Program, which includes middle school students of Mexican origin. One hundred and seventy-eight participants were originally assigned to the control condition that included a one-time workshop on supporting adolescents' middle school success. Within this control group, approximately 81% were born in the U.S. and approximately 63% lived in predominantly Spanish-speaking households. This current sample represents both female (53%, $N=96$) and male (47%, $N=82$) adolescent students across three consecutive cohorts. At Time 1, all adolescents were enrolled in 7th grade with an average age of 13.0 years ($SD = .53$). With respect to their parents' educational attainment, 45% of mothers and 47% of fathers had graduated from high school and/or received further education.

Procedure

Four participating middle schools in a metropolitan Southwestern area provided rosters for all enrolled 7th graders. Data available on each of the rosters were used to identify 2036 families as Hispanic (i.e., according to school district labels). A recruitment phone call described the intervention and determined eligibility according to the following criteria: the adolescent was of Mexican descent, at least one caregiver of Mexican descent was interested in participating, and the family was willing to be randomly assigned to the intervention or control group. Approximately 47% ($n = 957$) of identified families were eligible to participate and about 62% ($n = 598$) of eligible families participated in the first wave of data collection. Of the families that were interviewed, 87% ($n = 516$) underwent random assignment based on stratified sampling according to family language preference. Specifically, random assignment took place separately within the subsample of 275 (53.3%) predominantly Spanish-speaking families and within the subsample of 241 (46.7%) predominantly English-speaking families. The current sample represents the 178 families (34.5% of randomized families) that were assigned to the control condition across the two language subsamples. Data were gathered by individual interviews with adolescent participants in a private area of the home and in their preferred language. Computer-assisted interviews, which lasted approximately 1.5 to 2 hours, were conducted by bilingual interviewers who were previously trained in standardized administration, general interviewing techniques, and protection of human subjects. Each participant received \$30 per interview. Data were also collected from teachers and through school records. Teachers received \$5 for each completed survey. Data were collected in the beginning of 7th grade, end of 7th grade, and end of 8th grade. The current study utilized data from the second (end of 7th grade) and third (end of 8th grade) data collection periods because not all variables of

interest for the current study were gathered at the first period of data collection. For ease of presentation, the data collected at the end of 7th grade will be referred to as “T1” (i.e., Time 1) and the data collected at the end of 8th grade will be referred to as “T2” (i.e., Time 2). The proportions of complete data for study variables ranged from 87% to 100%.

Measures

Descriptive statistics for each study variable and correlations between variables are included in Tables 1 and 2, respectively. For the current study, adolescent gender was coded into a dichotomous variable (0 = female, 1 = male). In addition, based on adolescents' self-reports of where they were born, nativity was coded into a dichotomous variable (0 = born in the U.S., 1 = born outside the U.S.).

Ethnic identity affirmation—Consistent with Umaña-Taylor and colleagues' (2004) conceptualization, adolescents' ethnic identity affirmation at T1 was measured with a 7-item scale developed for the larger study to assess Mexican-origin children and adults' sense of ethnic pride and positive feelings about their ethnic group. Participants responded to statements (e.g., “I have a lot of pride in my Mexican roots” and “I feel disappointed when people say bad things about Mexicans or Mexican Americans”) using a 5-point Likert-type scale, with response options ranging from 1 (strongly disagree) to 5 (strongly agree). Scores were averaged for each item to create a composite score of ethnic identity affirmation. A condensed 4-item version of the measure was used in a study of Mexican-origin adolescents and demonstrated adequate reliability and support for construct validity (Berkel et al., 2010). With the current sample, Cronbach's alpha at T1 was .75.

Perceived discrimination—Adolescent self-report of perceived discrimination was evaluated using a subscale from the *Multicultural Events Scale for Adolescents (MESA)* developed by Gonzales and colleagues (Gonzales, Gunnoe, Samaniego, & Jackson, 1995; Gonzales, Tein, Sandler & Friedman, 2001). This life events scale was specifically designed to measure stressful experiences of culturally diverse, urban adolescents. The perceived discrimination subscale asked whether or not stated events occurred within the past three months. The 6 items include “people put you down for practicing Mexican customs or traditions” and “you were excluded from a group because you are Mexican or Mexican American.” Response options included 0 (no, did not happen) and 1 (yes, happened). Item responses were summed across each participant generating a scale score with a minimum of 0 and maximum of 4. The test-retest alpha for this measure over a two-week period was .82 (Gonzales et al., 1995).

GPA—School archival data were collected from school personnel at each wave for each student and included separate letter grades ranging from A+ to F for each of the primary classes taken by all students (Language Arts, Math, Social Studies, Science). Grades were coded with values ranging from 0 (F letter grade) to 4 (A+ letter grade). The four codes for each of the primary course grades were averaged such that each student had a final GPA score that ranged between 0 and 4.

Externalizing behaviors in school—Adolescent externalizing behavior in school was measured by teacher report on the Teacher Report Form (TRF) version of the Child Behavior Checklist (CBCL; Achenbach, 1991; Achenbach & Edelbrock, 1978, 1979, 1981, 1983; Achenbach, McConaughy, & Howell, 1987; Achenbach & Rescorla, 2001). Teachers were asked to indicate the extent to which each statement represented the student, with response options of 0 (not true), 1 (somewhat or sometimes true), and 2 (very or often true). Sample items for the 32-item externalizing subscale of the TRF include “disobedient in school” and “disturbs other pupils.” Item responses were summed to create a scale score

with a minimum of 0 and a maximum of 64. Although some teachers reported on multiple students, teachers did not differ significantly from one another in their reports of students externalizing behaviors ($p = .56$). Furthermore, intraclass class correlation coefficients (which represent the degree to which individuals with the same teacher have similar scores with one another compared to individuals with a different teacher) were small, with values of -0.036 for language arts teachers and -0.088 for math teachers. Scores from math and language arts teachers were averaged to generate a composite score of both teachers reports of externalizing behavior for each student. Math and language arts teachers were selected because these subjects were required of all students across all schools and the use of both subjects provided a score that reflected performance in both quantitative and verbally oriented courses. Alpha coefficients were $.93$ at T1 and $.95$ at T2 for math teacher report, and $.94$ at T1 and $.95$ at T2 for language arts teacher report.

Deviant peer associations in school—Association with deviant peers in school was derived from a general deviant peer association scale that combined items from several scales used previously with adolescents (Dishion, Patterson, Stoolmiller, & Skinner, 1991; Huizinga, Esbensen, & Weiher, 1991; Mason, Cauce, Gonzales, & Hiraga, 1994). Exploratory factor analysis with data collected in the beginning of 7th grade supported two distinct factors: general deviant peer association and deviant peer association in school. Confirmatory factor analyses at T1 and T2 supported the factor structure of the 4-item delinquent peers in school subscale; T1: χ^2 (df, p) = 4.867 (2, .09); RMSEA [CI] = .057 [.000, .123]; SRMR = 0.015; CFI = 0.995; T2: χ^2 (df, p) = 4.519 (2, .10); RMSEA [CI] = .054 [.000, .121]; SRMR = 0.012; CFI = 0.996. The four items (i.e., In the past month, how many of your friends cheated on school tests? How many of your friends got suspended from school? How many of your friends missed school without an excuse? How many of your friends got in trouble at school?) were scored on a 5-point scale ranging from 1 (none) to 5 (almost all). Composite scores were created by averaging responses across items for each participant. Alpha coefficients in the current sample were $.83$ at T1 and $.82$ at T2.

Analytic Strategy

All analyses were performed using Mplus version 5.21 (Muthén & Muthén, 1998, 2006). Separate regression models were conducted for each outcome variable (i.e., GPA, adolescent externalizing behaviors, and deviant peer association in school). In order to evaluate the hypothesized three-way interaction effects as well as any lower order effects on these three outcome variables, the following models were tested. First, a full model was tested that included: (a) nativity and baseline measure of the corresponding outcome variable as covariates, (b) the main effects of gender, ethnic identity affirmation, and perceived discrimination, (c) three two-way interactions between these three predictors, and (d) the three-way interaction of gender, ethnic identity affirmation, and perceived discrimination. All continuous baseline measures were centered prior to the creation of any interaction term (Aiken & West, 1991). If the initial three-way interaction between gender, ethnic identity affirmation, and perceived discrimination was significant, the effect of perceived discrimination was probed at three levels of ethnic identity affirmation (mean, one standard deviation below the mean, and one standard deviation above the mean) within each gender group (Aiken & West, 1991).

If the three-way interaction effect did not reach statistical significance, the three-way interaction term was dropped and a second model was tested with all two-way interactions, main effects, and covariates. Any significant two-way interactions were then probed at each level of gender or at the three levels of ethnic identity affirmation (as described above), based on the terms within the significant interaction. Missing data for all analyses were handled using full information maximum likelihood (FIML; Arbuckle, 1996).

Results

Overall, baseline measures were found to be significant predictors of each corresponding outcome variable. However, the nativity covariate was not found to be significant in any of the models. The current study followed Cohen's (1988) recommendations for the interpretation of effect sizes, with 0.2 indicating a "small" effect, 0.5 representing a "medium" effect, and 0.8 denoting a "large" effect.

GPA

With respect to GPA, a significant main effect for gender and two significant two-way interactions emerged; the full model explained 71% of the variance in adolescents' GPA. Findings indicated that female adolescents had significantly higher GPAs than their male counterparts. Follow-up analyses to test interactions found a significant two-way interaction between ethnic identity affirmation and gender ($f^2 = .04$) as well as a significant two-way interaction between perceived discrimination and gender ($f^2 = .04$). Effect sizes indicate that a relatively small proportion of variance in GPA was explained by each corresponding interaction, above and beyond all other predictors in the model, proportional to the error variance. Probing procedures indicated that perceived discrimination and ethnic identity affirmation each significantly predicted later GPA among males, but not females. Specifically, males who perceived greater levels of discrimination had lower GPAs one year later ($\beta = -.14$, $SE = .07$, $p < .05$, see Figure 1). Similarly, males who reported higher ethnic identity affirmation also had lower GPAs one year later ($\beta = -.21$, $SE = .08$, $p < .05$, see Figure 2). Each of these effects was significant above and beyond the effect of one another as well as the effects of nativity and GPA at T1. However, neither perceived discrimination nor ethnic identity affirmation significantly predicted later GPA among female adolescents ($\beta = .04$, $SE = .08$, $p = .59$; $\beta = .10$, $SE = .08$, $p = .18$, respectively).

Externalizing Behaviors in School

In examining predictors of adolescents' externalizing behaviors in school, a significant main effect emerged for adolescent gender such that teachers reported significantly higher levels of externalizing behaviors for male adolescents than for female adolescents. In addition, a three-way interaction emerged between gender, ethnic identity affirmation, and perceived discrimination in predicting adolescents externalizing behaviors in school (see Table 3). This medium-sized effect ($f^2 = .08$) indicates that a moderate amount of variance in externalizing behaviors was explained by this three-way interaction, above and beyond the other predictors, relative to the error variance. This model explained 37% of the variance in adolescents' externalizing behaviors in school, as reported by their teachers. Probing procedures, as described above, showed that perceived discrimination positively predicted externalizing behaviors among adolescent males with low levels of ethnic identity affirmation ($\beta = .54$, $SE = .25$, $p < .05$), but was negatively associated with school externalizing behaviors among adolescent males with high levels of ethnic identity affirmation ($\beta = -.34$, $SE = .17$, $p < .05$, see Figure 3). Among females, however, the association between perceived discrimination and school externalizing behaviors was nonsignificant across all levels of ethnic identity affirmation.

Deviant Peer Associations in School

Analyses examining deviant peer associations in school identified a significant two-way interaction between perceived discrimination and gender (see Table 3). This effect was small ($f^2 = .03$). Probing revealed a negative association between perceived discrimination and associations with deviant peers in school among female adolescents ($\beta = -.11$, $SE = .09$, $p = .22$) in contrast to a positive association between these constructs among male adolescents (β

= .16, SE = .10, $p = .13$); however, neither of these slopes reached statistical significance and, therefore, were not plotted.

Discussion

Existing work has established that Mexican-origin adolescents face discrimination and that these experiences negatively impact their adjustment (e.g., Edwards & Romero, 2008). Given this group's at-risk status with respect to academic adjustment (Aud et al., 2010), we examined the associations between discrimination and multiple indices of adjustment in the academic setting. Our findings suggest that the deleterious effects of discrimination on adolescents' adjustment in school may be particularly salient for Mexican-origin male adolescents; thus discrimination poses a significant risk for Mexican-origin male adolescents. Importantly, consistent with a risk and resilience framework (Masten & Coatsworth, 1998; Rutter, 1987), we found that male adolescents' positive feelings about their ethnic background (i.e., ethnic identity affirmation) served a protective function by minimizing the negative effects of discrimination on their adjustment. Contrary to our expectations, however, we found that ethnic identity affirmation could also serve as a risk factor, with respect to male adolescents' GPA. Below, we discuss the findings with special attention to the specific developmental period examined and variability in these processes by adolescent gender.

Discrimination and Academic Adjustment

We found discrimination to be a significant predictor of Mexican-origin males' GPA and teachers' reports of their externalizing behaviors, which is consistent with previous studies that have identified a link between Mexican-origin adolescents' perceived discrimination and their academic outcomes (e.g., Alfaro et al., 2009; Berkel et al., 2010; DeGarmo & Martinez, 2006). Importantly, we extended previous work by including assessments from multiple reporters (i.e., school records, teacher reports, adolescents' reports) and examining these associations longitudinally. Furthermore, our examination of three unique indicators of adolescents' academic settings provides a more holistic perspective of the impact discrimination may have on their academic outcomes. Our findings suggest that perceptions of discrimination are not only linked to male adolescents' official academic ranking (i.e., GPA), but also to their teachers' perceptions of their behavior in the school setting. In the current study, controlling for initial grades, male adolescents reporting higher levels of perceived discrimination tended to show greater declines in GPA over time than those who reported lower levels of perceived discrimination. This finding aligns with Suárez-Orozco and colleagues' (2008) suggestion that adolescents who experience greater levels of discrimination become increasingly distracted from their school work and have difficulties concentrating, which causes them to suffer academically.

Our examination of teachers' reports of adolescents' externalizing behaviors also implicated perceived discrimination as a significant risk factor for male adolescents. Specifically, males who endorsed lower levels of ethnic identity affirmation and reported more perceived discrimination tended to be perceived by their teachers as exhibiting higher levels of externalizing behaviors in school. This association has implications for male adolescents' life chances, as externalizing behaviors early in development have been linked to significant maladjustment in later adolescence and young adulthood (Dubow, Boxer, & Huesmann, 2008). Furthermore, there is evidence to suggest that teachers' perceptions of students' behaviors are critical to students' overall academic progress such that in a study of African American early adolescents, teachers' reports of their social skills was a stronger predictor of students' GPA than students' own math and reading test scores (Seyfried, 1998). It is important to note that there are considerable differences between African American and Latino adolescents' experiences with discrimination and that each group has unique

sociohistorical experiences in the context of the U.S. (see Pahl & Way, 2006, for brief discussion). Nevertheless, in the absence of existing research with Mexican-origin adolescents, it is useful to understand the experiences of adolescents from other disenfranchised groups to speculate on the processes that may be transpiring for Mexican-origin adolescents. Another important caveat to this discussion is that there is significant need for future work to more thoroughly explore the assessment of discrimination experiences with special attention to gender; it is possible that the measures of discrimination currently available are not capturing the discriminatory experiences that may be consequential to females' adjustment.

Nevertheless, the associations that emerged in the current study between perceived discrimination and male adolescents' adjustment in the academic setting are particularly noteworthy, given that existing research is based largely on reports from a single informant (e.g., adolescents' reporting on both their perceived discrimination and their own externalizing behaviors). In fact, the concern has been raised that the strength of the association among these variables may be overstated in previous work due to shared method variance (Umaña-Taylor & Alfaro, 2009). By examining how adolescents' perceptions of discrimination are linked to their academic adjustment as reported by others (e.g., teachers), the current study provides strong support for the significant negative impact of perceived discrimination on Mexican-origin male adolescents. In sum, our findings provide support for the notions advanced by García Coll and colleagues (1996), suggesting that discrimination is a critical feature of the social context that must be examined in order to gain a more complete understanding of ethnic minority youth's development and adjustment.

Ethnic Identity Affirmation: Protective Factor *and* Risk?

Consistent with our hypothesis, the significant and positive association between perceived discrimination and adolescents' externalizing behaviors in school only emerged for male adolescents who reported relatively lower levels of ethnic identity affirmation. For male adolescents with higher levels of ethnic identity affirmation, greater perceived discrimination predicted decreases in externalizing behaviors. These findings were as expected and support the notion that ethnic identity affirmation may be serving a protective function for male adolescents, such that those who are most at risk for negative effects of discrimination are those who do not feel positively about their ethnic group membership. This association is consistent with previous work on Mexican-origin adolescents, but extends prior work by focusing on indices of academic adjustment as the outcome variable, as existing work (e.g., Romero & Roberts, 2003; Umaña-Taylor & Updegraff, 2007) has focused largely on mental health outcomes.

Although ethnic identity affirmation emerged as a significant protective factor by buffering the negative impact of discrimination on male adolescents' externalizing behaviors as reported by teachers, contrary to our expectations, we also found that male adolescents who reported higher ethnic identity affirmation tended to have lower GPAs one year later. This finding suggests that high levels of ethnic identity affirmation may pose a risk for Mexican-origin male adolescents' grades. The developmental period under study may be a key factor to consider in understanding this unexpected association given the previous empirical work with older adolescents, which suggests that ethnic identity affirmation is a cultural strength that can promote positive development and adjustment among Latino adolescents (Umaña-Taylor et al., 2011). The adolescents in the current study were in middle school, which is a time when academic tracking by ability level typically begins and, in effect, ethnic minority adolescents (in particular African American and Latino males) tend to get tracked into lower ability groups (Eccles & Roeser, 2003). In this context, ethnic minority adolescents are regularly faced with the idea that their ethnic group (which is over-represented in low ability tracking groups) is not academically successful. Drawing from the notion of stereotype

threat (Steele & Aronson, 1995), it is possible that adolescents who feel most positively about their ethnicity (i.e., strong ethnic identity affirmation) may tend to underperform in a manner that is consistent with the stereotype that exists about their group. Steele and Aronson explain that underperformance results from the anxiety one feels about conforming to the negative stereotype; for example, anxiety can result in distraction, which can limit one's performance. It is possible that because early adolescents are in the process of exploring their identity and forming a more mature understanding of their ethnicity and the role it may play in their lives, they are in the early stages of understanding this abstract concept and not yet able to reap its protective effects. Conversely, older adolescents likely attained their high levels of ethnic identity affirmation through a process of ongoing exploration, which has provided them with a clearer understanding of the positive and negative stereotypes of their group (Umaña-Taylor et al., 2004). Thus, early adolescence may be one developmental period during which a strong identification with one's group can represent a temporary risk for declines in academic performance, rather than benefit. Importantly, this strong identification may morph into a protective factor as adolescents socially and cognitively mature, undergo the process of ethnic identity formation and, thus, gain a more nuanced understanding of their ethnicity and the role it plays in their lives (see Phinney, 1993, for a discussion of the developmental progression of ethnic identity). As adolescents progress through middle and late adolescence, ethnic identity affirmation is likely to become more uniformly associated with positive adjustment across domains. In fact, most studies, which incidentally have focused on older adolescents, have generally found ethnic identity affirmation to function in a promotive fashion (e.g., Supple, Ghazarian, Frabutt, Plunkett, & Sands, 2006). If this is indeed the case, the current findings may suggest that middle school is a particularly important time to help prepare male adolescents to understand the meaning of their ethnic group membership and ways to counteract group-based threats and risk for declining school performance.

Discrimination and Adjustment: A Gendered Phenomenon or a Methodological Artifact?

Turning to within group variability, adolescent gender emerged as an important variable in understanding the associations of interest in the current study. In fact, the negative effects of discrimination appeared to be consequential for males' academic adjustment, but not females'. There are several factors that may explain these findings. First, it is possible that the social context we studied (i.e., the academic setting) played a significant role. For instance, it is well established that males are more academically vulnerable than females, as evidenced by their lower grades, greater behavioral problems in the school setting, and lower rates of graduation (see Buchmann, DiPrete, & McDaniel, 2008, for a review). Thus, experiences with discrimination may be particularly detrimental for males' academic adjustment because it is an area in which they are already showing vulnerability. Interestingly, our findings are consistent with findings from Alfaro and colleagues' (2009) work with middle to late Latino adolescents, in which perceived discrimination was significantly associated with males' academic motivation and GPA, but not females'. Thus, this association may persist throughout the developmental period of early to late adolescence.

A second possibility is more culturally rooted and suggests that Mexican-origin adolescent males may be more susceptible to the negative effects of discrimination on their adjustment because they have more freedom to explore and engage in extrafamilial contexts than their female counterparts (Raffaelli & Ontai, 2004) and, thus, are likely to derive their identities from these experiences more so than Mexican-origin adolescent females. Therefore, discriminatory experiences may be more likely to affect male adolescents because they rely relatively more on these extrafamilial contexts to inform their self worth (Alfaro et al., 2009).

Finally, as previously noted, it is important to consider the possibility that measurement issues may explain the gender differences that have emerged in prior work and in the current study. For instance, it is possible that the aspects of discrimination that are being assessed in existing measures are more relevant to boys' experiences than girls' experiences. For instance, girls may experience discrimination with respect to dating opportunities or other issues surrounding interpersonal relations, but these domains are not typically captured in existing measures of discrimination, which focus on unfair treatment in stores or by authority figures, for example. It would be informative to conduct qualitative work with male and female adolescents to examine whether their experiences with discrimination vary enough to consider having different measures that more accurately capture their gendered experiences.

Limitations and Directions for Future Research

The current study includes many strengths such as a multiple-informant and longitudinal design, and a focus on an ethnic homogenous population. Nevertheless, there are several limitations to consider. First, the current study examined temporally ordered associations, but it will be important to understand if perceived discrimination in early adolescence sets certain academic trajectories in motion during middle through late adolescence. For instance, with a predominately Mexican-origin sample of Latino adolescents, Zeiders and colleagues (2011) found that higher perceived discrimination during middle adolescence was associated with a significantly slower rate of growth in self-esteem across middle to late adolescence, while those with lower initial levels of perceived discrimination evidenced significantly faster rates of growth in self-esteem during this time. Understanding whether similar patterns exist when trajectories of academic adjustment are examined will be useful for determining when preventive intervention efforts that target discrimination might be most effective.

In addition to a more extensive longitudinal examination of these associations, it will be important to include a sample large enough to examine potential within group variability resulting from nativity and generational status. For instance, in previous work, Fuligni (1997) noted significant differences between immigrant- and U.S.-born adolescents with respect to academic motivation and success. In the current study, we were unable to test our models with multiple nativity groups given our limited sample size and the need to also divide the groups by gender. It will be important for future studies to include large enough samples of nativity by gender groups to test potential moderation because experiences with discrimination and their relations with outcomes may vary significantly based on adolescents' nativity status. A related recommendation is to consider whether family-level acculturation levels could inform the associations of interest, particularly with respect to the gender differences that emerged. In discussing gender differences that emerged in the current study, we allude to potential differences in how males and females are socialized in Latino families and how this informs their experiences with discrimination and perhaps the manner in which discrimination is linked to adjustment. Previous work has noted that gender socialization processes are likely to vary based on parents' own cultural orientations (McHale, Updegraff, Shanahan, Crouter, & Killoren, 2005); thus, examining family-level acculturation and how it may introduce variability into these processes is an important area for future research.

Despite the noted limitations, the current study provides an important step in the right direction, and adheres to scholars' recommendation to move beyond examining correlational associations and consider processes by which discrimination may be linked to youth adjustment (Pachter & García Coll, 2009). Our findings add to a growing literature implicating discrimination as a significant risk factor in the lives of Mexican-origin male adolescents and underscore the need to consider adolescent gender as a key variable in

understanding the role that discrimination plays in adolescents' adjustment. Our findings also suggest that future work will benefit from a more nuanced understanding of how developmental transitions may inform the protective or risk enhancing nature of cultural strengths such as EI affirmation. Finally, given the at-risk status of Mexican-origin adolescents in the U.S. with respect to academic achievement, and the current findings that underscore the vulnerability of Mexican-origin males specifically, it will be imperative to focus preventive intervention efforts on discrimination in this population. Our findings suggest that school-based supports for boys are needed and that an exploration of preventive interventions focused on male adolescents' ethnic identity affirmation may be worth pursuing.

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Figure 1.
Perceived Discrimination Regressed on Grade Point Average by Adolescent Gender
Note. Black line denotes Mexican-origin male adolescents, gray line indicates Mexican-origin female adolescents.

Figure 2.
Ethnic Identity Affirmation Regressed on Grade Point Average among Mexican-origin Male Adolescents
Note. Black line denotes male adolescents, gray line indicates female adolescents.

Figure 3.
Perceived Discrimination Regressed on Externalizing Behaviors in School at Three Levels of Ethnic Identity Affirmation among Mexican-origin Male Adolescents
Note. Dotted line indicates low ethnic identity affirmation (one standard deviation below the mean), solid line indicates high ethnic identity affirmation (one standard deviation above the mean), dashed line indicates mean ethnic identity affirmation.

Table 1

Descriptive Statistics and Skewness and Kurtosis Estimates of Study Variables.

Variable	Mean	SD	Skewness	Kurtosis	N
Nativity ^a	0.17	0.38	1.777	1.171	177
Ethnic Identity Affirmation (T1)	4.58	0.55	-1.953	4.186	156
Perceived Discrimination (T1)	0.56	0.90	1.634	1.943	156
Deviant Peers in School (T1)	1.89	0.81	1.457	2.140	156
Externalizing in School (T1)	4.11	6.34	2.747	8.992	169
GPA (T1)	2.45	1.03	-0.397	-0.841	166
Deviant Peers in School (T2)	1.87	0.82	1.161	0.917	157
Externalizing in School (T2)	5.20	7.55	2.614	7.791	154
GPA (T2)	2.51	0.94	-0.434	-0.695	154

Note. Means and standard deviations (SD) were calculated using Full Information Maximum Likelihood (FIML; $n = 178$). Skewness and kurtosis estimates were calculated based on available data (see column N).

^a 0 = U.S. born, 1 = non-U.S. born. T1 = Time 1; T2 = Time 2; GPA = Grade Point Average; SD = Standard Deviation.

Table 2

Correlations between Study Variables (Top) and Descriptive Statistics (Bottom) by Gender based on Calculations using Full Information Maximum Likelihood (FIML; $n = 178$).

Variable	1	2	3	4	5	6	7	8	9
1. Nativity ^a	---	.04	.09	-.09	-.11	-.01	.04	-.06	.07
2. Ethnic Identity Affirmation (T1)	.17*	---	.14	.02	-.12	.30**	.12	.19*	.01
3. Perceived Discrimination (T1)	-.04	-.20**	---	-.09	.15*	.03	.14	.07	-.11
4. Deviant Peers in School (T1)	-.06	-.14	.23**	---	.21**	-.26**	.46**	.34**	-.35**
5. Externalizing in School (T1)	.15*	-.01	.21**	.28**	---	-.47**	.12	.36**	-.51**
6. GPA(T1)	.06	.19*	-.09	-.29**	-.58**	---	-.16*	-.25**	.79**
7. Deviant Peers in School (T2)	-.16*	-.16*	.07	.63**	.31**	-.37**	---	.36**	-.27**
8. Externalizing in School (T2)	.04	-.01	.18*	.28**	.73**	-.39**	.18*	---	-.55**
9. GPA (T2)	.05	.22**	-.04	-.28**	-.64**	.82**	-.35**	-.50**	---
Mean (SD)									
Females	0.12 (0.32)	4.56 (0.60)	0.65 (0.96)	1.90 (0.88)	3.46 (6.28)	2.64 (0.97)	1.83 (0.88)	3.56 (5.21)	2.76 (0.83)
Males	0.23 (0.42)	4.59 (0.49)	0.45 (0.81)	1.89 (0.72)	4.71 (6.25)	2.22 (1.05)	1.90 (0.75)	7.22 (9.16)	2.23 (0.98)

Note. Correlations presented below the diagonal are for females and above the diagonal are for males.

^a 0 = U.S. born, 1 = non-U.S. born. T1 = Time 1; T2 = Time 2; GPA = Grade Point Average; SD = Standard Deviation.

* $p < .05$.

** $p < .01$.

Table 3

Standardized Estimates for Final Regression Models Examining Ethnic Identity Affirmation, Perceived Discrimination, and Gender as Predictors of Externalizing Behaviors in School, Grade Point Average (GPA), and Deviant Peer Associations in School at Time 2.

	Externalizing Behaviors in School		School Reports of GPA		Deviant Peer Associations in School	
	β	SE	β	SE	β	SE
Nativity ^a	.038	.065	.036	.044	-.019	.068
Baseline of Outcome (T1)	.556***	.061	.821***	.034	.559***	.059
Gender ^b (G)	.207**	.067	-.135**	.048	.064	.069
Perceived Discrimination (T1)	.013	.097	.061	.073	-.113	.093
EI Affirmation (T1)	.001	.103	.030	.072	-.081	.095
DxE	-.053	.084	.068	.058	-.037	.077
DxG	.072	.097	-.146*	.067	.187*	.092
ExG	.124	.099	-.143*	.070	.096	.092
DxE _{ExG}	-.246**	.088	---	---	---	---

Note.

^a0 = U.S. born, 1 = non-U.S. born.

^b0 = Female, 1 = Male. T1 = Time 1; D = T1 Perceived Discrimination; E = T1 Ethnic Identity Affirmation; G = Adolescent Gender. Cells containing a dash indicate that the factor was dropped from the model.

* $p < .05$.

** $p < .01$.

*** $p < .001$.