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# Latino adolescents' mental health: Exploring the interrelations among discrimination, ethnic identity, cultural orientation, self-esteem, and depressive symptoms

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## Abstract

Guided by a risk and resilience framework, the current study used cross-sectional data to examine the degree to which Latino adolescents' ( $N = 274$ ;  $M$  age = 16.3; 47.1% female) self-esteem, ethnic identity, and cultural orientations mediated or moderated the relation between perceived discrimination and depressive symptoms. Utilizing a multiple group comparison approach, path analyses indicated that higher levels of ethnic identity exploration and resolution significantly predicted higher levels of self-esteem for both boys and girls. Furthermore, self-esteem partially mediated the relation between perceived discrimination and adolescents' depressive symptoms. Additional analyses revealed that boys' cultural orientations moderated the relation between perceived discrimination and both self-esteem and depressive symptoms. Taken together, findings indicated that various aspects of the self (i.e. self-esteem, ethnic identity, cultural orientations) can protect and/or enhance the risks associated with discrimination.

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*Keywords:* Latino; Adolescents; Discrimination; Ethnic identity; Cultural orientation; Gender

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## Introduction

Latinos are expected to constitute over 25% of the US population by the year 2060 (US Census, 2000). Given that a significant proportion of the Latino population consists of children under the age of 18 (i.e. 36%; US Census, 2000) and that the prevalence of mental health disorders begins to increase during adolescence (Cicchetti & Toth, 1998), it is critical to understand how to reduce the burden of mental illness among Latino adolescents. Currently, Latino adolescents demonstrate the highest risk for depression among multiple ethnic groups. For example, after adjusting for the effects of age, gender, and socioeconomic status, Mexican-origin and Central American adolescents were the only youth among eight ethnic groups with odds ratios above 1.0 (i.e. 1.77 and 1.31, respectively; Roberts, Roberts, & Chen, 1997). Results from several studies have mirrored these findings as Latino adolescents (Siegel, Yancey, Aneshensel, & Schuler, 1999) and Mexican-origin adolescents, specifically (Joiner, Perez, Wagner, Berenson, & Marquina, 2001), have reported significantly higher levels of depression than White, African American, and Asian American adolescents. These findings underscore the importance of gaining a better understanding of developmental processes and psychological functioning among this rapidly growing and young population.

The overarching purpose of this study was to investigate Latino adolescents' psychosocial functioning (i.e. self-esteem and depressive symptoms) from a culturally-informed perspective (García Coll et al., 1996) by considering the central role of culturally-relevant stressors (i.e. discrimination) and experiences (i.e. ethnic identity processes, cultural orientations). Although empirical work has established the negative association between perceived discrimination and depressive symptoms among samples of Latino adults (Finch, Kolody, & Vega, 2000) and Latino adolescents (Romero & Roberts, 2003; Szalacha et al., 2003), few studies have examined how developmental and psychosocial factors (i.e. self-esteem, ethnic identity, cultural orientation) may mediate and moderate this relation. Given the significant risk to Latino adolescents' mental health that is posed by perceived discrimination, we were interested in utilizing a risk and resilience framework in which the potential protective role of culturally-related processes could be explored. Within a risk and resilience framework, emphasis is placed on identifying factors that can minimize the negative effects of risks (Masten, Best, & Garmezy, 1990). As described by prevention scientists, the occurrence of a stressor often sets in motion a process in which children are negatively affected; however, risk reducers can serve as mediators by being negatively associated with the stressor, but having a positive impact on developmental outcomes (Roosa, Wolchik, & Sandler, 1997). As such, we sought to understand how developmental (i.e. ethnic identity) and psychosocial cultural factors (i.e. cultural orientations) may buffer or exacerbate the negative effects of discrimination on adolescents' psychological functioning. Specifically, we examined a model in which discrimination was hypothesized to predict depressive symptoms directly and indirectly via self-esteem; we also expected ethnic identity to predict self-esteem, and we expected adolescents' cultural orientation to moderate the relations between discrimination and both self-esteem and depression.

### *Discrimination as a significant risk for Latino adolescents*

The influence of racism, discrimination, and other social mechanisms on the development of minority youth has been relatively unexplored (García Coll et al., 1996). The limited research

available, however, suggests that the negative effects of perceived discrimination can be far reaching. For example, researchers have documented a positive relation between perceived discrimination and depressive symptoms in cross-sectional studies of Mexican-origin adolescents (Romero & Roberts, 2003) and Puerto Rican children and adolescents (Szalacha et al., 2003). Furthermore, findings suggest that perceived discrimination is a common experience for Latino adolescents (Fennelly, Mulkeen, & Giusti, 1998; Fischer, Wallace, & Fenton, 2000; Katz, 1999; Szalacha et al., 2003), and moreover, that perceived discrimination is associated with poor mental health (Romero & Roberts, 2003; Szalacha et al., 2003). Given that discrimination can be a source of significant stress for Latino youth, it follows that perceived discrimination is a risk.

While experiences with discrimination constitute environmental conditions in which adolescents' lives are embedded, individual characteristics such as identity and self-esteem have remained relatively unexplored in relation to adolescents' perceived discrimination and depressive symptoms. Such an exploration would be consistent with ecological theory (Bronfenbrenner, 1989), in which outcomes are thought to be influenced by the interaction of individual factors and environmental characteristics. From a risk and resilience perspective (Masten et al., 1990), it is possible to expect that factors such as self-esteem and ethnic identity may mediate the influence of discrimination on depressive symptoms.

#### *The role of self-esteem and ethnic identity*

High self-esteem has been repeatedly identified as minimizing the negative effects of risks (Masten & Coatsworth, 1998; Rutter, 1987). Consistent with a resilience framework, scholars suggest that self-esteem serves as a protective factor by insulating youth from stress that stems from negative life events, and specifically, protecting against depression (Piko & Fitzpatrick, 2003). In one longitudinal study, children with a more negative self-concept became more depressed than their counterparts who had a more positive self-concept, even after controlling for initial levels of depression (Hammen, 1988). Furthermore, cross-sectional studies have identified a significant negative relation between self-esteem and depressive symptoms for Latino adolescents (Portes & Zady, 2002), Latino, African American, and White adolescents (Ge, Elder, Regnerus, & Cox, 2001), and children from low socioeconomic status groups (Toth, Manly, & Cicchetti, 1992). Finally, in a separate but related line of work, researchers have also found that perceived discrimination is negatively associated with self-esteem among Latino adolescents (Romero & Roberts, 2003; Szalacha et al., 2003) and samples that include Latino adolescents (Fischer et al., 2000). Given that research has found discrimination to predict self-esteem, and self-esteem to predict depressive symptoms, it is important to consider self-esteem as a mediator when examining the relation between discrimination and depression.

Similar to existing work with self-esteem, ethnic identity is considered an aspect of self-concept that may protect individuals from risks (Crocker & Major, 1989; Phinney, 2003). Ethnic identity is central during adolescence, as girls and boys begin to form a sense of self in multiple domains (Marcia, 1994). According to Erikson (1968), it is through exploration of options (sometimes experienced through crises) and firm commitments to ideologies that individuals come to achieve a secure identity. For ethnic minority adolescents, there is an additional layer of complexity involved as they must not only negotiate the identity formation process in terms of interpersonal relationships and occupation, but must also contend with their minority group status within the

majority culture and define how this cultural aspect of their identity informs who they are and who they will become (Markstrom-Adams, 1992).

The sense of self that begins to crystallize during adolescence has numerous implications for individuals' well-being. For example, it is possible that ethnic identity (the process of exploring and resolving) can serve a protective role for individuals' self-esteem in that it provides adolescents with a solid sense of self. Adolescents who have explored and resolved issues regarding their ethnicity may feel more confident and have the tools with which to discuss issues pertaining to ethnicity, when compared to those who have not explored or resolved the meaning of their ethnicity. In line with this idea, ethnic identity has been suggested as a protective resource that enables individuals to be resilient when encountering discrimination (Phinney, 2003). It has been proposed that when individuals experience discrimination, ethnic identity is heightened (Tajfel & Turner, 1986) and group attributions may increase and serve as a mechanism with which to protect one's self-esteem in the face of discrimination (Crocker & Major, 1989). In addition, existing empirical work has established a positive relation between ethnic identity and psychological well-being (Martinez & Dukes, 1997; Phinney, 1992; Phinney, Cantu, & Kurtz, 1997; Phinney, DuPont, Espinosa, Revill, & Sanders, 1994; Umaña-Taylor, 2004). What has received less attention, however, is the process by which ethnic identity may influence adolescents' psychological functioning. We argue that ethnic identity may reduce the impact of risk factors such as discrimination by promoting self-esteem in adolescents. Furthermore, scholars have identified high self-esteem as one of the most commonly cited predictors of resilient children (Masten & Coatsworth, 1998). Given the positive relation between ethnic identity and self-esteem that has been documented in existing empirical work, coupled with theoretical postulations regarding protective processes, we argue that ethnic identity may buffer the negative effects of discrimination on depressive symptoms, via its association with self-esteem.

#### *Cultural orientation as a protective or risk mechanism*

Adolescents' cultural orientation is another potential protective factor that is important to consider when examining Latino adolescents' psychological functioning. Current perspectives on cultural adaptation highlight socialization processes related to both the mainstream and ethnic culture (i.e. typically referred to as acculturation and enculturation, respectively) and emphasize that these two dimensions be considered independently (Berry, 2003; Phinney, 1990). Drawing on cultural-ecological and resilience paradigms (Rutter, 1990; Spencer, 1995), we proposed that adolescents' cultural orientations may moderate the relation between perceived discrimination and both self-esteem and depressive symptoms. Specifically, we anticipated that a strong orientation toward mainstream culture would magnify the positive relation between discrimination and depressive symptoms and the negative relation between discrimination and self-esteem (e.g. see related work with Mexican origin adults; Finch et al., 2000). Greater involvement in mainstream culture may increase the salience of perceived discrimination for adolescents' psychosocial functioning. We further hypothesized that greater involvement in Latino culture would decrease the negative relation between discrimination and self-esteem and the positive relation between discrimination and depressive symptoms as orientation toward Latino culture may serve as a protective factor, reducing the risks associated with discrimination. This expectation is consistent with broader empirical work highlighting the positive associations

between Latino adolescents' orientation toward their ethnic culture and well-being (Gonzales, Knight, Morgan-Lopez, Saenz, & Sirolli, 2002).

We also explored whether the moderating role of cultural orientation differed for girls versus boys. Existing sex differences in cultural socialization experiences (Azmitia & Brown, 2002; Valenzuela, 1999) and indicators of adolescent psychosocial functioning (Twenge & Nolen-Hoeksema, 2002) suggest the importance of exploring whether there are different risk and protective factors for girls versus boys. Although Latino families are not as rigidly traditional as early writings proposed, gender is an organizing feature of family roles and responsibilities in Latino families (Cauce & Domenech-Rodriguez, 2002) and there is some evidence of differential socialization experiences for sons versus daughters (Azmitia & Brown, 2002; Valenzuela, 1999). In general, findings suggest that girls are required to provide more assistance at home and receive greater supervision and restrictions on activities outside the home. Boys, in contrast, have fewer responsibilities at home and are afforded more freedom and opportunities to spend time away from home. This pattern of greater emphasis on family obligations for daughters and greater autonomy for sons lead to our expectation that mainstream culture orientation may be a particularly salient risk factor for boys and Latino cultural orientation may be an important protective factor for girls. Boys may be at greater risk for experiencing discrimination and it may be a more salient experience for their well being given their greater involvement (as compared to girls) in mainstream culture. We further expected that, for girls, Latino cultural orientation may be a more important protective factor given their greater involvement in family life that may minimize the potentially negative effects of discrimination experiences.

In sum, it is possible that adolescents' ethnic identity promotes positive self-esteem, which in turn mediates the relation between perceived discrimination and depressive symptoms. Furthermore, to gain a complete understanding of the relation between perceived discrimination and depressive symptoms, it is also critical to consider the possible protective function of adolescents' cultural orientation (i.e. acculturation, enculturation). As such, the current study examined (a) the degree to which ethnic identity predicted self-esteem, (b) the mediational role of self-esteem on the relation between perceived discrimination and depressive symptoms, and (c) the moderating role of cultural orientation on the relations between perceived discrimination and both depressive symptoms and self-esteem. We also examined whether different patterns emerged for girls versus boys given sex differences in cultural socialization experiences (Azmitia & Brown, 2002; Szapocznik & Kurtines, 1980; Valenzuela, 1999) and adolescent psychosocial functioning (e.g. Twenge & Nolen-Hoeksema, 2002).

## Method

### *Sample*

Data for the current study were taken from a larger longitudinal study focused on Latino adolescents' ethnic identity formation. The sample for the current study only utilized data from Wave 2, as all variables of interest (e.g. perceived discrimination) were not gathered at Wave 1. The current sample consisted of 273 Latino adolescents ( $M = 16.3$  years of age;  $s.d. = .78$ ; 47.6% female) attending one of five high schools in the Midwest. Although the sample included

adolescents who represented various Latino groups (e.g. Colombian, Salvadoran), as well as those with mixed heritages (e.g. Puerto Rican and White), a majority of respondents (i.e. 84%) identified as being of Mexican-origin (e.g. Mexican, Mexican American). Additionally, a majority reported having been born in the US (i.e. 72%), and 93% of those born outside of the US were born in Mexico. Furthermore, 68% of adolescents reported living with both biological parents. Finally, adolescents reported that 60% of their mothers and 60% of their fathers had obtained at least a high school degree, which is consistent with US Census estimates of Latinos over the age of 25 who have at least a high school degree (Ramirez & de la Cruz, 2002).

### *Procedure*

Participants were identified as Latino based on school records and the first author organized an informational meeting at each school to which all 9th and 10th grade Latino students were invited. During the meeting, the purpose of the study was explained and consent and assent forms were distributed. Of the 407 adolescents who attended the informational meeting, 80% returned the consent and assent forms. Adolescents completed a self-administered questionnaire during a specified school hour at four schools and during an early dismissal day at the fifth school. The questionnaire took approximately 45 min to complete; almost all chose to complete it in English (98%). Adolescents received \$15 for their participation in Wave 2.

### *Measures*

#### *Demographic characteristics*

A number of demographic characteristics were assessed in the current study. First, national origin was determined based on adolescents' self-identification. Specifically, adolescents were given various examples of ethnicities (e.g. Mexican, Cuban, Nicaraguan) and asked to report what they considered their ethnicity to be. Adolescents who identified with a Mexican heritage (e.g. Mexican American, Chicano) were classified as being of Mexican origin, while those who identified with panethnic terms (e.g. Hispanic) or other specific Latino ethnicities (e.g. Puerto Rican) were classified as non-Mexican Latino. In addition, to assess generational status, adolescents were asked to report on the country of birth for themselves, each parent, each paternal grandparent, and each maternal grandparent. Consistent with methods used in previous work (see Umaña-Taylor & Fine, 2001), generational status was calculated as a cumulative score based on the number of individuals in adolescents' immediate family who were born in the US, which ranged from 0 to 7.

Finally, maternal and paternal education was assessed by asking adolescents to report the highest level of education completed by each parent using a scale of 0 (no education) to 11 (graduate degree). Because maternal and paternal education were highly correlated ( $r = .58$ ,  $p < .001$ ), a mean value was computed for this study. When adolescents reported information for one parent only (i.e.  $n = 9$ ), that value was utilized as the parental level of education. Participants with no data ( $n = 3$ ) were excluded from analyses including this variable.

#### *Perceived discrimination*

Perceived discrimination was assessed with the global discrimination subscale from Whitbeck, Hoyt, McMorris, Chen, and Stubben's (2001) measure of discrimination. The subscale considers

global experiences with discrimination and consists of five items (e.g. “How often have others said something bad or insulting to you because you are Hispanic/Latino?”), scored on a 4-point Likert scale, with end points of (1) *Almost never* to (4) *Very often*. Although initially developed for use with American Indian adolescents, this measure was modified to assess perceived discrimination among Latino adolescents and the  $\alpha$  was .86 in this sample. An inverse transformation was applied to correct for skewness. Because the inverse transformation changes the direction of the score (i.e. a positive value becomes negative), the direction of scoring was recoded and higher scores indicated more discrimination.

### *Ethnic identity*

Two subscales from the Ethnic Identity Scale (Umaña-Taylor, Yazedjian, & Bámaca-Gómez, 2004) were utilized to assess adolescents’ ethnic identity exploration (7 items) and ethnic identity resolution (4 items). Items were scored on a 4-point Likert scale, with end points of *Does not describe me at all* (1) to *Describes me very well* (4). Sample items included “I have attended events that have helped me learn more about my ethnicity” (exploration), and “I have a clear sense of what my ethnicity means to me” (resolution). The subscales of the EIS have obtained coefficient  $\alpha$ s ranging from .84 to .89 with ethnically diverse samples (Umaña-Taylor et al., 2004), and the three factor structure was replicated via confirmatory factor analysis in work with Latino adolescents (Supple, Ghazarian, Frabutt, Plunkett, & Sands, 2006). In this study,  $\alpha$ s were above .80 for both scales. Regarding validity, subscales of the EIS have been related in the expected direction with familial ethnic socialization (Supple et al., 2006) and self-esteem (Umaña-Taylor & Shin, in press).

### *Self-esteem*

Adolescents’ global self-esteem was assessed using Rosenberg’s (1979) 10-item Self-Esteem Scale. Items (e.g. “On the whole, I am satisfied with myself”) were scored on a 4-point Likert scale, with end points of *Strongly disagree* (1) to *Strongly agree* (4), and were coded such that higher scores indicated higher levels of self-esteem. Providing support for the validity of this scale, it has been positively correlated with ethnic identity among ethnic minority adolescents (Phinney et al., 1997; Umaña-Taylor et al., 2004). Furthermore, Cronbach’s  $\alpha$ s have ranged from .71 to .85 with ethnically diverse adolescent samples (Phinney et al., 1997; Umaña-Taylor & Fine, 2001). In the current study,  $\alpha$  was .87.

### *Depressive symptoms*

Adolescents’ depressive symptoms were assessed with the 20-item Center for Epidemiological Studies Depression Scale (CES-D; Radloff, 1977). Adolescents were asked how often they felt a certain way during the past week; items (e.g. I could not get “going”) were rated on a 4-point Likert scale, with end points of *Rarely or none of the time* (0) to *Mostly or almost all of the time* (3). The reliability of the CES-D has been demonstrated in other work with Latino populations (Roosa, Tein, Reinholtz, & Angelini, 1997). In the current study,  $\alpha$  was .91.

### *Cultural orientations*

Adolescents’ orientations toward mainstream and Latino culture were measured with the 24-item Bidimensional Acculturation Scale for Hispanics (BAS; Marín & Gamba, 1996), which

assesses individuals' language-related acculturation in relation to both mainstream and Latino culture. These subscales are referred to as English acculturation and Spanish enculturation in the original measure. Reliabilities have been reported at .91 and .96, respectively, in previous work (Marín & Gamba, 1996). In previous work, the acculturation subscale was negatively correlated with age of arrival in US, and positively correlated with generational status, and the enculturation subscale was positively correlated with age of arrival and negatively correlated with generational status, providing initial support for the validity of these subscales (Marín & Gamba, 1996). The same patterns of relationships emerged in the current study (see Table 1). Furthermore,  $\alpha$ s in this sample were above .90. An inverse transformation was applied to the acculturation subscale to correct for skewness and the scoring of the variable was corrected so that higher scores reflected greater acculturation and enculturation. Although these subscales more closely represent orientation toward or involvement in mainstream and Latino culture than the underlying processes (i.e. acculturation or enculturation), we use the authors' terms for this measure in describing our results.

## Results

We first conducted path analyses to examine the relations between ethnic identity and self-esteem and to test the mediational role of self-esteem in the relation between discrimination and depressive symptoms. Second, we explored the moderating role of cultural orientation in the associations between discrimination and both self-esteem and depressive symptoms.

As a preliminary step, we tested for mean differences in parent education by national origin (i.e. Mexican versus non-Mexican) and nativity (US versus foreign-born). We found significant differences by national origin,  $F(1, 270) = 6.84, p < .01$ , with non-Mexican adolescents reporting higher parent education levels ( $M = 6.8$ ; s.d. = 2.4) than Mexican adolescents ( $M = 5.8$ ; s.d. = 2.3). In addition, US born adolescents reported that their parents had higher education levels ( $M = 6.2$ ; s.d. = 2.1) than foreign born adolescents ( $M = 5.1$ ; s.d. = 2.6),  $F(1, 269) = 14.03, p < .001$ . Given these differences, we examined the role of parent education, national origin, and nativity in our analyses.

### *Interrelations among ethnic identity, self-esteem, discrimination, and depressive symptoms*

To examine the degree to which ethnic identity predicted self-esteem, and the mediational role of self-esteem on the relation between perceived discrimination and depressive symptoms, we tested our hypothesized model via path analysis using AMOS 5.0. Prior to testing our model, we used Box's  $M$  (see Winer, 1971) to test whether the parameter estimates in the model differed significantly by key demographic characteristics such as generational status, parental educational attainment, and national origin. Median splits were used to divide adolescents into dichotomous groups for generational status (i.e. none or one familial birth in the US versus two or more births in the US) and parental level of education (i.e. less than a high school degree versus at least a high school degree). In terms of national origin, adolescents were categorized based on whether they were of Mexican origin ( $n = 230$ ) or not ( $n = 43$ ). None of the demographic variables moderated



Table 1  
Correlations, means, and standard deviations of study variables

|                                      | 1               | 2               | 3               | 4              | 5              | 6               | 7               | 8              | 9             | <i>M</i>     | <i>s.d.</i> |
|--------------------------------------|-----------------|-----------------|-----------------|----------------|----------------|-----------------|-----------------|----------------|---------------|--------------|-------------|
| 1. Ethnic identity exploration       |                 |                 |                 |                |                |                 |                 |                |               | 2.9<br>(273) | .69         |
| 2. Ethnic identity resolution        | .61**<br>(273)  |                 |                 |                |                |                 |                 |                |               | 3.3<br>(273) | .67         |
| 3. Self-esteem                       | .26**<br>(273)  | .24**<br>(273)  |                 |                |                |                 |                 |                |               | 3.1<br>(273) | .53         |
| 4. Depressive symptoms               | −0.09<br>(273)  | −0.1<br>(273)   | −.68**<br>(273) |                |                |                 |                 |                |               | .77<br>(273) | .54         |
| 5. Perceived discrimination          | .13*<br>(273)   | .04<br>(273)    | −.24**<br>(273) | .36**<br>(273) |                |                 |                 |                |               | 1.6<br>(273) | .61         |
| 6. Acculturation                     | −0.09<br>(273)  | −0.05<br>(273)  | .10<br>(273)    | −.04<br>(273)  | −.08<br>(273)  |                 |                 |                |               | 3.6<br>(273) | .49         |
| 7. Enculturation                     | .47**<br>(273)  | .44**<br>(273)  | .09<br>(273)    | .01<br>(273)   | .14*<br>(273)  | −.53**<br>(273) |                 |                |               | 2.6<br>(273) | .97         |
| 8. Parental education                | −.14*<br>(271)  | −0.09<br>(271)  | .10<br>(271)    | −.09<br>(271)  | .04<br>(271)   | .33**<br>(271)  | −.35**<br>(271) |                |               | 5.9<br>(271) | 2.4         |
| 9. Gender <sup>a</sup>               | .09<br>(273)    | .14*<br>(273)   | −.17**<br>(273) | .24**<br>(273) | −.15*<br>(273) | .08<br>(273)    | .13*<br>(273)   | .01<br>(271)   |               | .48<br>(273) | .50         |
| 10. Generational status <sup>b</sup> | −.22**<br>(244) | −.28**<br>(244) | .00<br>(244)    | .02<br>(244)   | −.10<br>(244)  | .47**<br>(244)  | −.75**<br>(244) | .38**<br>(242) | −.01<br>(244) | 2.2<br>(244) | 2.2         |

Note. <sup>a</sup>Boys = 0, Girls = 1. <sup>b</sup>Range for this variable is 0 (i.e. no familial births in the U.S.) to 7. Raw scores (non-transformed) were used to calculate values. Sample size presented in parentheses.

\* $p < .05$ , \*\* $p < .001$

the relations in the path model ( $p > .05$  for all tests), indicating that the parameter estimates would be consistent across groups.

Findings indicated that ethnic identity exploration and resolution both positively predicted self-esteem, and that self-esteem partially mediated the relation between perceived discrimination and adolescents' depressive symptoms (see Fig. 1). Specifically, as adolescents reported more discrimination, they reported lower self-esteem and more depressive symptoms; furthermore, lower levels of self-esteem were associated with more depressive symptoms. Thus, discrimination was directly and indirectly associated with adolescents' depressive symptoms via its relation with self-esteem. To determine the percentage of the effect (of discrimination on depression) that was mediated by self-esteem, we followed MacKinnon and Dwyer's (1993) method of calculation. Specifically, we computed the product of the paths from discrimination to self-esteem and self-esteem to depressive symptoms (i.e.  $-.70 * -.61 = .427$ ) and divided this value by the sum of the product plus the path from discrimination to depressive symptoms (i.e.  $.427 + .56 = .987$ ). Based

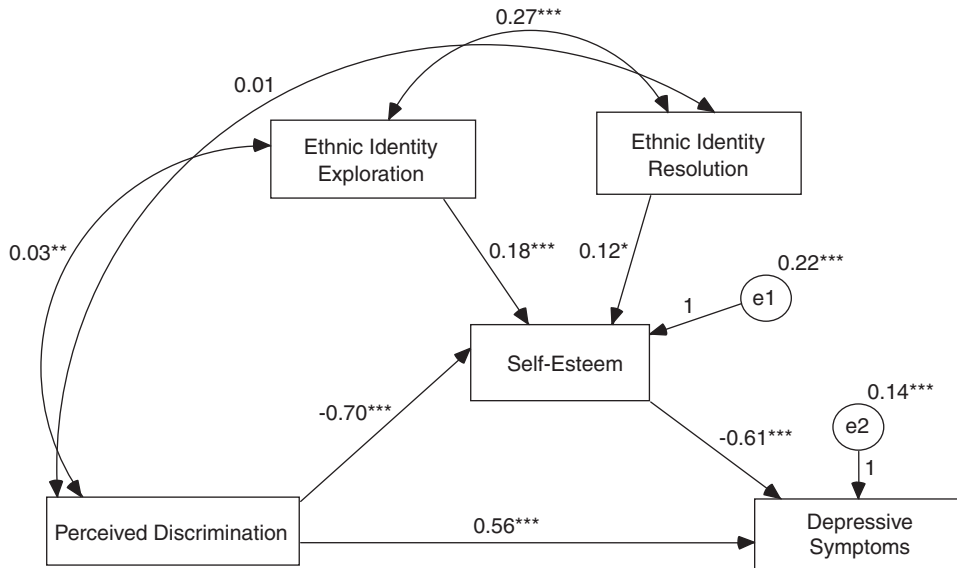


Fig. 1. Fully constrained structural model for boys and girls (unstandardized estimates).

on these calculations, 43% of the effect of perceived discrimination on depressive symptoms was mediated by self-esteem (i.e.  $.427/.987 = .432$ ).

To determine whether the same pattern of relationships held for boys and girls, we used a multiple-group comparison approach (Arbuckle & Wothke, 1999). With this approach, constraints impose identical estimates for the model's parameters for both groups and equivalence among samples is evaluated (Byrne, 1994). We tested models with three different types of constraints: all path estimates constrained to be equal for boys and girls; all path estimates and covariances constrained to be equal; and all path estimates, covariances, and residual terms constrained to be equal. All models demonstrated a good fit, which indicated that while imposing the most conservative constraints (i.e. path estimates, covariances, and residuals constrained to be equal), the model fit equally well for both boys and girls (see Table 2).

#### *Examining the moderating role of cultural orientations*

To test the moderating role of acculturation and enculturation in the relation between perceived discrimination and both depressive symptoms and self-esteem and to test whether different patterns emerged for girls and boys, we conducted a series of hierarchical regressions. The first set of models tested the role of acculturation and included parent education (as a control variable), adolescent sex (0 = boys; 1 = girls), perceived discrimination, and acculturation in the first step, the two-way interaction terms in the second step (i.e. adolescent sex  $\times$  acculturation, adolescent sex  $\times$  discrimination, and acculturation  $\times$  discrimination) and the three-way interaction term in the third step. Parallel models were estimated to test the role of enculturation. Main effects were centered prior to creating interaction terms to reduce multicollinearity and guidelines by Aiken and West (1991) were followed to interpret significant interactions. Specifically, we conducted follow-up analyses by creating groups of those who scored high (i.e. one standard deviation above

Table 2

Fit indices for models using multigroup analyses to examine interrelations among ethnic identity, self-esteem, perceived discrimination, and depressive symptoms by gender

|  | $\chi^2$        | DF | RMSEA | GFI | AGFI | NFI |
|--|-----------------|----|-------|-----|------|-----|
| Constraints:                               |                 |    |       |     |      |     |
| Path estimates                             | 9.82 <i>ns</i>  | 9  | .02   | .99 | .95  | .98 |
| Path estimates and covariances             | 13.36 <i>ns</i> | 15 | .00   | .98 | .96  | .97 |
| Path estimates, covariances, and residuals | 20.95 <i>ns</i> | 17 | .03   | .97 | .95  | .95 |

Note. *ns* = non-significant value. RMSEA = root mean square error of approximation. GFI = Goodness-of-Fit Index. AGFI = Adjusted Goodness-of-Fit Index. NFI = Normed Fit Index.

the mean on acculturation or enculturation) and low (i.e. one standard deviation below the mean) on acculturation or enculturation and examining the slopes for discrimination and self-esteem or depression. For three-way interactions, we used the log linear transformation of discrimination rather than the inverse transformation to aid in interpretation of the findings. We describe the findings for the full sample but the same pattern was found when analyses were limited to Mexican youth.

#### *Moderating role of acculturation and adolescent sex*

The first model tested the role of acculturation in predicting adolescents' *self-esteem*. The first step in the model was significant with boys reporting higher self-esteem than girls and discrimination being negatively related to self-esteem (see Table 3). There was not a significant change in the variance accounted for in the second step. The third step, however, accounted for a significant increase, *F change* (1,262) = 5.12,  $p < .05$ . Adolescent sex, perceived discrimination, the adolescent sex x discrimination interaction, and the three-way interaction were significant. Follow-up analyses for the three-way interaction revealed that acculturation moderated the relation between perceived discrimination and self-esteem for boys but not for girls. Specifically, a significant negative relation emerged between discrimination and self-esteem for boys who reported high,  $t(275) = -4.30$ ,  $p < .01$ , but not low levels of acculturation. For girls, a significant negative association was found between discrimination and self-esteem for both those who reported low and high levels of acculturation,  $t(275) = -2.69$ ,  $p < .01$  for low acculturation, and  $t(275) = -2.89$ ,  $p < .01$  for high acculturation.

The first step in the model predicting adolescents' *depressive symptoms* also was significant. Significant predictors included adolescent sex and perceived discrimination. Girls reported higher levels of depressive symptoms than did boys, and perceived discrimination was positively associated with depressive symptoms. The second step in the model did not account for a significant increase in the variance but the third step did, *F change* (1, 262) = 5.70,  $p < .05$ . Significant predictors in the final model included adolescent sex, perceived discrimination, and the three-way interaction term. When boys reported high levels of acculturation, there was a significant positive relation between discrimination and depressive symptoms,  $t(275) = 4.37$ ,  $p < .01$ , and when boys reported low levels of acculturation the association between discrimination and depressive symptoms was not significant. For girls, significant positive associations between

Table 3

Summary of hierarchical regressions predicting self-esteem and depression from adolescent sex, discrimination experiences, and acculturation

|  | Self-esteem                           |             |         | Depression                             |             |         |
|--|---------------------------------------|-------------|---------|--|-------------|---------|
|  | <i>B</i>                              | <i>SE B</i> | $\beta$ | <i>B</i>                               | <i>SE B</i> | $\beta$ |
| <i>Step 1</i>                                      |                                       |             |         |  |             |         |
| Parent education                                   | .02                                   | .01         | .09     | -.02                                   | .01         | -.11    |
| Adolescent sex                                     | -.22                                  | .06         | -.20**  | .31                                    | .06         | .29**   |
| Discrimination                                     | -1.33                                 | .29         | -.37**  | 1.55                                   | .28         | .43**   |
| Acculturation                                      | .28                                   | .19         | .11     | .12                                    | .18         | .05     |
|  | $F(4,266) = 7.9, p < .01, R^2 = .093$ |             |         | $F(4,266) = 18.5, p < .01, R^2 = .205$ |             |         |
| <i>Step 2</i>                                      |                                       |             |         |  |             |         |
| Sex $\times$ discrimination                        | .96                                   | .42         | .19*    | -.37                                   | .40         | -.07    |
| Sex $\times$ acculturation                         | -.09                                  | .31         | -.02    | -.53                                   | .29         | -.13    |
| Acculturation $\times$ discrimination              | -2.50                                 | 1.21        | -.15    | 2.39                                   | 1.15        | .14     |
|  | $F(7,263) = 5.3, p < .01, R^2 = .100$ |             |         | $F(7,263) = 11.1, p < .01, R^2 = .207$ |             |         |
| <i>Step 3</i>                                      |                                       |             |         |  |             |         |
| Sex $\times$ acculturation $\times$ discrimination | 4.65                                  | 2.05        | .17*    | -4.67                                  | 1.96        | -.17*   |
|  | $F(8,262) = 5.4, p < .01, R^2 = .114$ |             |         | $F(8,262) = 10.6, p < .01, R^2 = .221$ |             |         |

Note: Betas represent final models.

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

discrimination and depressive symptoms were found, regardless of acculturation status,  $t(275) = 5.13, p < .01$  for low acculturation, and  $t(275) = 4.42, p < .01$  for high acculturation.

#### *Moderating role of enculturation and adolescent sex*

The first step in the model predicting adolescents' *self-esteem* was significant (see Table 4). As noted, boys reported higher self-esteem than did girls. In addition, parent education and enculturation were positively associated with self-esteem, and perceived discrimination was negatively related to self-esteem. The second step did not result in a significant increase in the variance explained, but the third step did,  $F$  change (1, 262) = 3.96,  $p < .05$ . As noted, parent education, adolescent sex, enculturation, and discrimination, were significant predictors. In addition, the three-way interaction was significant. When boys reported low but not high levels of enculturation, there was a significant negative relation between discrimination and self-esteem,  $t(275) = -4.17, p < .01$ . For girls, there was a negative association between discrimination and self-esteem for those with low enculturation,  $t(275) = -3.15, p < .01$ , and high enculturation,  $t(275) = -3.08, p < .01$ .

The first step in the model predicting adolescents' *depressive symptoms* also was significant, with adolescent sex and perceived discrimination being significantly related to depressive symptoms as previously described. In addition, parent education was negatively related to depressive symptoms. The third step in the model (but not the second step) resulted in a significant increase in the variance explained,  $F$  change (1, 262) = 6.72,  $p < .01$ . Significant predictors in the final model were parent education, adolescent sex, perceived discrimination, and the three-way interaction term. Follow-up analyses on the three-way interaction revealed that a positive relation emerged

Table 4

Summary of hierarchical regressions predicting self-esteem and depression from adolescent sex, discrimination experiences, and enculturation

|  | Self-esteem                            |             |         | Depression                             |             |         |
|--|--|-------------|---------|--|-------------|---------|
|  | <i>B</i>                               | <i>SE B</i> | $\beta$ | <i>B</i>                               | <i>SE B</i> | $\beta$ |
| <i>Step 1</i>                                      |  |             |         |  |             |         |
| Parent education                                   | .04                                    | .01         | .19**   | -.04                                   | .01         | -.18**  |
| Adolescent sex                                     | -.25                                   | .06         | -.23**  | .31                                    | .06         | .29**   |
| Discrimination                                     | -1.28                                  | .29         | -.36**  | 1.49                                   | .28         | .41**   |
| Enculturation                                      | .09                                    | .05         | .17*    | -.08                                   | .04         | -.15    |
|  | $F(4,266) = 11.7, p < .01, R^2 = .137$ |             |         | $F(4,266) = 20.7, p < .01, R^2 = .226$ |             |         |
| <i>Step 2</i>                                      |  |             |         |  |             |         |
| Sex $\times$ discrimination                        | .63                                    | .44         | .12     | -.25                                   | .42         | -.05    |
| Sex $\times$ enculturation                         | .05                                    | .07         | .06     | .04                                    | .07         | .05     |
| Enculturation $\times$ discrimination              | .55                                    | .28         | .15*    | -.36                                   | .27         | -.10    |
|  | $F(7,263) = 7.4, p < .01, R^2 = .142$  |             |         | $F(7,263) = 11.7, p < .01, R^2 = .217$ |             |         |
| <i>Step 3</i>                                      |  |             |         |  |             |         |
| Sex $\times$ enculturation $\times$ discrimination | -.90                                   | .45         | .15*    | 1.13                                   | .44         | .21*    |
|  | $F(8,262) = 7.0, p < .01, R^2 = .151$  |             |         | $F(8,262) = 11.3, p < .01, R^2 = .234$ |             |         |

Note: Betas represent final models.

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

between discrimination and depressive symptoms only for boys who were low on enculturation,  $t(275) = 4.23, p < .01$ . As described above, for girls, there was a significant positive association between discrimination and depressive symptoms,  $t(275) = 3.58, p < .01$  for low enculturation, and  $t(275) = 5.71, p < .01$  for high enculturation.

## Discussion

The current study drew from multiple frameworks (i.e. social identity, ego identity, cultural ecological, and resilience) to develop an understanding of the mechanisms by which an important stressor in Latino adolescents' lives (i.e. perceived discrimination) was associated with self-esteem and depressive symptoms. Furthermore, this study took an important first step in understanding the protective nature of adolescents' cultural orientation and ethnic identity for this risk. Our findings underscore the importance of examining multiple dimensions of adolescents' cultural identities, as they may serve different functions for adolescents' well-being. Moreover, this work provides important direction for future intervention work with Latino youth.

### *Role of self-esteem and ethnic identity*

Consistent with a resilience framework (Masten & Coatsworth, 1998; Rutter, 1987), our findings suggest that aspects of positive self-concept (e.g. self-esteem, ethnic identity) may

minimize the negative effects of risks associated with perceived discrimination. In the current study, as adolescents reported higher levels of ethnic identity exploration and resolution, they also tended to report higher levels of self-esteem. Furthermore, self-esteem appeared to be a risk reducer (Roosa et al., 1997), as it was negatively associated with perceived discrimination, but was positively associated with adolescents' mental health. Rutter (1987) argues that protective processes include those that promote self-esteem and self-efficacy; accordingly, it is possible to consider ethnic identity exploration and resolution as protective processes, as they are positively associated with adolescents' self-esteem. Nevertheless, it is important to note that self-esteem only partially mediated the negative effect of discrimination on depressive symptoms (i.e. 43% of the effect was mediated by self-esteem) as a significant direct link remained between discrimination and depressive symptoms. Thus, it will be important to examine other potential mediators that could buffer this effect (e.g. coping skills, self-efficacy).

The positive relations that emerged among ethnic identity exploration and resolution and self-esteem are consistent with previous work (e.g. Martinez & Dukes, 1997; Umaña-Taylor et al., 2004). Furthermore, findings from the multigroup analyses indicated that a model with self-esteem as a partial mediator of the relation between discrimination and depressive symptoms, and ethnic identity exploration and resolution as predictors of self-esteem, fit well for boys and girls. Thus, while the incidence of depression may vary by gender, the process by which cultural-related stress is associated with adolescents' mental health may be similar for girls and boys.

The partial mediating role of self-esteem is also consistent with previous work, which has found self-esteem to buffer the negative effects of stress on depression (Piko & Fitzpatrick, 2003). In one study, self-esteem partially mediated the relation between parenting behaviors and depressive symptoms; researchers concluded that parenting can hinder children's self-worth, which then can increase children's vulnerability for depressive symptoms (Garber, Robinson, & Valentiner, 1997). Our findings were similar, in that discrimination was associated with lower self-esteem and lower self-esteem was associated with more depressive symptoms. Thus, it could be that perceiving discrimination can hinder self-worth, which can then increase vulnerability for depressive symptoms. Future studies should examine this relation utilizing an experimental design, which could provide insights about potential causal links.

#### *Moderating role of adolescents' cultural orientations*

Our analyses further revealed that the relation between discrimination and both self-esteem and depressive symptoms was moderated by boys' but not girls' cultural orientations, with a modest percentage of the variance explained in each of our models (i.e. ranging from 11% to 23%). Consistent with our expectations based on a risk and resilience perspective and cultural-ecological paradigm (Rutter, 1990; Spencer, 1995), when boys reported high levels of orientation toward mainstream culture, there was a significant negative relation between discrimination and self-esteem and a significant positive relation between discrimination and depressive symptoms. In contrast, no significant associations emerged between discrimination and well-being for boys who reported low levels of orientation toward mainstream culture. Our findings suggest that boys who are strongly oriented toward mainstream culture may be at heightened risk for the negative effects of discrimination (Finch et al., 2000). Experiencing discrimination (e.g. being treated unfairly, ignored, or excluded) may be particularly salient and have a significant impact on boys when they

view themselves as integrated in majority culture, and spend significant amounts of time in ethnically heterogeneous or predominantly mainstream social contexts. Overall, this pattern of findings highlights the potential risks associated with involvement in mainstream culture for boys who perceive discrimination.

We also found that when boys reported low levels of Latino cultural orientation, there was a significant positive association between their perceptions of discrimination and their depressive symptoms and a negative relation between perceived discrimination and self-esteem. In contrast, when boys reported high levels of Latino cultural orientation, there were no significant associations. These findings suggest that high levels of involvement in Latino culture may serve as a protective factor, minimizing the negative impact of discrimination on youth adjustment (Gonzales et al., 2002). One possibility is that when boys are more engaged in Latino culture they may have more limited exposure to discrimination and prejudice. Infrequent experiences with discrimination, in turn, may be less likely to be associated with boys' psychosocial functioning. It is also possible that, when boys identify more strongly with Latino culture, discrimination holds less significance for them and therefore does not have associations with their perceptions of self-worth and feelings of depression. It will be important in future work to examine Latino adolescents' exposure to discrimination experiences, their perceptions of these experiences, and how they differ for youth depending on various aspects of youth's cultural orientations (e.g. identification with ethnic and mainstream cultural groups, time spent in Mexican, Anglo, and ethnically heterogeneous settings).

The pattern for girls supported previous work documenting the negative implications of perceived discrimination for adolescents' psychosocial functioning (Fischer et al., 2000). Girls' cultural orientations, however, did not place them at risk for or protect them from the negative implications of perceived discrimination. Differences in girls' versus boys' cultural socialization experiences (Azmitia & Brown, 2002; Valenzuela, 1999) may lead to gender differences in cultural processes that serve as risk and protective factors. Given evidence that Latino girls, particularly from Mexican origin families, have greater responsibilities and roles in the family and may place greater emphasis on family support and obligations, the extent to which girls endorse familistic values may be important to consider in future work. For example, it is possible that for girls, it is strong ties to the family that may protect them from the negative effects of discrimination, rather than global cultural orientations. Together, the different patterns for boys and girls suggest that differences in cultural socialization experiences may lead to gender differences in risk and protective factors. Although the small amount of variance accounted for by the interaction terms emphasizes the need for replication, our findings suggest that cultural orientations (as measured in the current study) may serve as risk and protective factors for boys, but not for girls. In future work, it will be important to identify cultural processes that place girls at greater risk for or reduce the risks of discrimination.

#### *Limitations and directions for future research*

This study was among the first to examine the interrelations among cultural-related stressors, psychological functioning, and cultural orientations for Latino adolescents. It is important to note, however, that the Latino population in the current study was not homogenous in terms of national origin. Given existing work documenting significant differences in self-esteem and

depressive symptoms among Latinos based on national origin group (Portes & Zady, 2002), as well as concerns regarding measurement equivalence among multiple Latino national groups (Umaña-Taylor & Fine, 2001), it will be important to examine whether differences also emerge in the interrelations among variables across multiple national origin groups. In a similar vein, the current study is limited in its ability to examine whether variation in the relations of interest exists based on adolescents' generational status, as the sample was comprised primarily of US born adolescents; furthermore, the foreign-born portion of the sample was almost exclusively of Mexican origin (i.e. 93%). Because experiences with discrimination and the influence that discrimination has on well-being may vary based on degree of exposure to the US culture, and these processes may vary by national origin, it will be important to extend this work to adolescents of different generational statuses *and* national origin groups.

Finally, it is important to note that the current study is based on cross-sectional data, preventing us from drawing conclusions about the direction of relations. While it is theoretically consistent to expect that cultural stressors increase adolescents' risk for poor mental health (Gonzales & Kim, 1997), an important next step will be to conduct longitudinal studies to determine whether increases in perceived discrimination predict variation in adolescents' mental health over time. Furthermore, experimental interventions will also be necessary to address the causal relations implied in the current model (e.g. cultural orientation moderating the effects of risk on mental health). Designs in which cultural orientation is manipulated (e.g. via increasing ethnic knowledge) will provide valuable information regarding the protective or risk enhancing nature of adolescents' cultural orientation.

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