

[The Impact of Discrimination and Support on Developmental Competencies in Latino Adolescents](#)

By: [Laura M. Gonzalez](#), [Gabriela L. Stein](#), Lisa Kiang, Alexandra M. Cupito

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Abstract:

Discrimination is considered a contextual risk factor for ethnic minority youth, but social support provided in the same context may function to offset the risk or encourage adaptive responses. Per the integrative model of child development (Garcia Coll et al., 1996), experiences in the school, familial, and community settings can foster the development of cognitive, social, and emotional competencies in the presence of racism and discrimination. The current study evaluated how perceptions of discrimination and support in the school setting influenced school belonging, college-going self-efficacy, and depressive symptoms in a sample of Latino youth (N = 179). We distinguished between peers and nonparental adults as the sources of discrimination and support. Overall, peer support was associated with all three outcomes, suggesting peers as a positive resource. Adult support was only significant in the school belonging model. Findings supported a limited moderating role for peer support on peer discrimination, but only for the depressive symptoms outcome. Implications and suggestions for mental health practitioners are offered.

Keywords: Latino | support | discrimination | developmental competencies

Article:

The integrative model of development of ethnic or racial minority youth is a useful conceptual model for many reasons (Garcia Coll et al., 1996). The model describes how ethnic minority youth develop cognitive, social, emotional, and cultural competencies through their continued interactions with multiple contexts, including schools, family, and neighborhoods. These contexts are described as promoting or inhibiting environments, given their positive or negative influence on how the desired developmental competencies manifest. Given that some stressors are experienced more commonly by disenfranchised communities (e.g., discrimination), this

attention to the role of context in individual development is vital. Using the integrative child development model (Garcia Coll et al., 1996), our study seeks to understand the relationship between discrimination and social support experienced in the context of school, and how these experiences may combine to influence the development of competencies in Latino adolescents. We have chosen to examine three outcomes representing developmental competencies salient in the school environment—school belonging (a social competency), college-going self-efficacy (a cognitive competency), and low levels of depressive symptoms (an emotional competency).

Discrimination

Ethnic or racial discrimination represents a significant risk factor for Latino youth as they move through adolescence (Garcia Coll et al., 1996). Epidemiological research finds that almost 50% of Latinos between the ages of 18–24 report experiences of discrimination (Perez, Fortuna, & Alegria, 2008). Although there are no similar data for younger Latinos, studies in smaller samples suggest that it is just as prevalent in adolescence (e.g., Potochnick, Perreira, & Fuligni, 2012; Szalacha et al., 2003). Instances of discrimination against Latinos (e.g., low expectations from teachers, assumptions about immigrant status, and verbal and physical harassment from peers) have been documented in school settings (Greene, Way, & Pahl, 2006; Rosenbloom & Way, 2004). Experiences of discrimination are stressful and can result in decreased psychological functioning (Potochnick et al., 2012; Umaña-Taylor & Updegraff, 2007; Zeiders, Umaña-Taylor, & Derlan, 2013), lowered self-esteem (Edwards & Romero, 2008; Szalacha et al., 2003), and diminished educational outcomes (Benner & Graham, 2011).

Discrimination and Developmental Competencies

Discrimination can pose a significant risk to the development of emotional competencies in Latino adolescents. In fact, experiences of ethnic or racial discrimination have been associated with greater depressive symptoms both concurrently and longitudinally (Greene, Way, & Pahl, 2006; Hwang & Goto, 2008; Stein, Gonzalez, & Huq, 2012; Umaña-Taylor & Updegraff, 2007; Zeiders, Umaña-Taylor, & Derlan, 2013), which suggests that these experiences likely overwhelm the coping resources of these youth (Hammack, 2003). Additionally, newer longitudinal studies find that discrimination leads to future depressive symptoms and not vice versa (Berkel et al., 2010), further providing evidence of its negative impact on the development of emotional competencies. Moreover, this risk is especially pronounced for Latino adolescents. One study indicated that Latino adolescents perceived more discrimination compared with younger children; the authors also reported an association of age with more depressive outcomes (Szalacha et al., 2003). In terms of sources of discrimination, both discrimination from peers and adult in school settings have been found to predict depressive symptoms in Latino youth (Greene et al., 2006).

In addition to emotional competencies, discrimination in the school can influence the development of social and cognitive competencies. However, few studies have examined directly the impact of discrimination on the competencies being proposed in the current study (i.e., school belonging and college-going self-efficacy). Sense of school belonging is utilized in the current study to refer to a student's perceptions of the level of connection, trust, inclusion, and support experienced in the general school climate (Goodenow, 1993). There is growing

consensus that discrimination harms the sense of connection and belonging a student feels with his or her school (DeGarmo & Martinez, 2006; Martinez, DeGarmo, & Eddy, 2004; Roche & Kuperminc, 2012; Stone & Han, 2005), which was associated with less persistence, lowered grade performance, and decreased engagement. Roche and Kuperminc (2012) described a mediation effect, such that experiencing discrimination was associated with a lower sense of school belonging for Latino middle school students, which partially explained lower grade outcomes. Thus, a social context where discriminatory behaviors are experienced (i.e., an inhibiting environment) may diminish school connection and related academic outcomes for Latino youth. However, most of these studies have not examined peers and nonparental adults as different sources of discrimination.

Prior researchers have documented an association between discrimination and academic motivation in Latinos (Huynh & Fuligni, 2010; Perreira, Fuligni, & Potochnick, 2010), but none have examined the potential damage that discrimination does to college-going beliefs. Gibbons and Borders (2010) measured college-going self-efficacy beliefs, perceived barriers, and school-based social support in two comparison groups who would (or would not) be potential first-generation college students. Perceived barriers included racial or ethnic discrimination, but also lack of educational role models and college planning support, financial stress, and family issues. In the full sample, perceived barriers exerted a negative influence on college-going self-efficacy beliefs, suggesting that discrimination as part of this construct could contribute to diminished college-going self-efficacy. The source of discrimination within the barriers construct was not specified, so this study will add to the literature.

Social Support

Given the negative consequences of discrimination, it is important to identify supportive relationships that may offset those risks so that Latino youth can continue to develop and function adaptively. Social support is an important resource for promoting developmental competencies in youth. Sources of social support can include family, nonparental adults, close friends, and acquaintances, and can be present in the school or community as well as the home (Demaray & Malecki, 2002). Support from all four sources has been found to benefit Latino adolescents' academic, social, and emotional functioning (Crean, 2004; López, Ehly, & García-Vázquez, 2002). However, much of the literature regarding Latinos has focused on culturally based support that is built in the family environment (Garcia Coll et al., 1996); less attention has been paid to social support found in other contexts (Perez, Espinoza, Ramos, Coronado, & Cortes, 2009).

Social Support and Developmental Competencies

In terms of promoting emotional competencies in youth, a number of studies on psychological adjustment have documented the importance of perceived social support from both peer and adult sources. For example, perceived social support from peers has been linked with fewer depressive symptoms among adolescents from various racial or ethnic groups (Cheng, 1997; Garnefski & Diekstra, 1996). Similarly, among several different ethnic groups, Demaray and Malecki (2002) found that lower perceived support from peers, teachers, and parents was associated with more problems in externalizing and internalizing symptoms as compared with

midlevel or high-level perceived social support. The importance of support from adult sources has been documented by Casey-Cannon, Pasch, Tschann, and Flores (2006), who studied the influence of nonparental adult support when parents exhibited depressive symptoms and thus were less available for support. In that context, greater social support from a nonparental adult at time one predicted less depression a year later for both Mexican American and European American girls. Support from teachers was associated with more adaptive emotional functioning in other findings (Colarossi & Eccles, 2003). However, teacher support only predicted school adjustment, not emotional adjustment, for Latino middle school students in a third study (Demaray & Malecki, 2002), whereas parental and peer support did predict emotional adjustment outcomes. Of note, counselor or psychologist support within schools has been studied less frequently (Villalba, 2007). It is clear that support is important to developing emotional competencies, but research findings regarding specific sources of support are less clear.

In addition to promoting emotional competencies, support may have a positive influence on social and cognitive developmental competencies. Support from teachers has been shown to have a positive association with school satisfaction and behavioral engagement in school for Latino students even beyond the influence of parent support or demographic control variables (Brewster & Bowen, 2004). In a sample of over 800 Latino middle school students, teacher support was positively related to both student behavior at school and satisfaction with school (Woolley, Kol, & Bowen, 2009). Thus, these two studies suggest that support from adults in school impacts social competencies in the school setting, but none have examined school belonging specifically. Teachers are influential people in the school environment and their support should be associated with academic outcomes. Research on Latino peer support and its influence on academic outcomes is mixed, however (Azmitia & Cooper, 2001; DeGarmo & Martinez, 2006). We seek to extend existing knowledge by directly comparing the effects of different sources of social support on the sense of school belonging and college-going self-efficacy of adolescents facing discrimination in the school context. In particular, we wanted to clarify whether nonparental adults in school also would influence social, cognitive and emotional outcomes, or only cognitive or academic outcomes.

Gibbons and Borders (2010) are the only scholars to specifically link social support to college-going self-efficacy, and the school personnel support variable or factor was only predictive of positive college-going outcome expectations. There is general evidence suggesting that supportive relationships (with teachers or others) can improve future outlook for adolescents as they strive for educational and career goals (Kenny et al., 2003; Roderick, Coca, & Nagaoka, 2011). However, these studies were not specifically examining college-going self-efficacy beliefs, and thus provide only tangential support. Research in this area is limited, and it is still unclear if discrimination and support have direct and interactive effects on college-going self-efficacy beliefs or if the source of the social supports makes a difference.

Goals of the Current Study

Although the negative influence of discrimination and the positive influence of social support on the outcomes of interest have been described, the way in which support might change the relationship between discrimination and those outcomes has only been explored initially (Tummala-Narra & Claudius, 2013) and will be explored further in the current study. We seek

not only to understand discrimination and social support in isolation, but to examine any potential connection between these two types of social interactions. DeGarmo and Martinez (2006) made an important contribution in their empirical examination of the relationship between social support, discrimination, and academic outcomes for Latino adolescents. Their path analysis confirmed that discrimination was related to lower levels of academic well-being and support was related to higher levels, and that combined high levels of support from all sources could indeed buffer against discrimination. However, they focused solely on academic well-being as their outcome and their discrimination items only related to general unwelcoming experiences in the schools, not particular sources. By including emotional, social, and cognitive developmental competencies as outcomes and differentiating discrimination and support by source, our study will be able to inform future research and interventions in a more specific way. Thus, the current study will test whether the specific source of support changes the strength of the relationship between discrimination and the three outcomes of interest.

Specifically, the purpose of the current study was to evaluate the simultaneous influence of social support and discrimination from peers and nonparental adults in the school context. We hypothesized (1) that discrimination from both sources would negatively predict school belonging and college-going self-efficacy, and positively predict depression; and (2) that social support would moderate the relationship between discrimination and the three outcomes of interest.

Method

Participants

We recruited Latino youth in all 7–10th grade classrooms from one school district in North Carolina (two middle schools and one high school). In total, there were 442 Latino students among the three schools. Parental consent was sought by researchers attending an open house at school, via direct phone calls to the home, and through a bilingual recruitment letter and consent form that was sent home with the student from school. In all, 221 parents consented to have their child participate (79% of those reached; 50% of total) and 40 parents declined to have their child participate (14% of those reached; 9% of total). One student withdrew from the study. There were 191 students assented and participated in the current study; 179 cases were able to be used for the current analyses. The total response rate for the study was 68% of those reached, or 43% of the total Latino 7–10th grade student population.

The mean age of participants was 14.1 ($SD = 1.33$), and 53% were female. The majority of the participants were of Mexican origin (78%), with the remainder reporting mixed Latino heritage (8%), or Nicaraguan, Dominican, Salvadorian, Guatemalan, Columbian, Costa Rican, or Cuban heritage (2% each). Regarding nativity, 75 of the students were born in other countries, 110 of the students were born in the United States but had at least one foreign-born parent, and four participants reported that both of their parents were born in the United States. The school district (K–12) was 34% Latino with 68% of students qualifying for free or reduced lunch (Department of Public Instruction, 2009). In addition, 19% of students were characterized by the school as having limited English proficiency, more often in the earlier grade levels.

Procedures

All survey administration was completed in fall 2010 in the participating school's cafeteria as part of a larger study. The students were given a child assent form. The participants had the option to have an English or Spanish version of the survey; all but one chose English. The team also encouraged participants to ask for assistance at any point during the survey and checked each questionnaire to ensure the quality of the data.

Several measures (i.e., CASSS, CGSES, and PSSM) were translated and back-translated using a modified procedure outlined by Brislin (1986). Two undergraduate students who were native speakers of Spanish translated and back-translated the measures, and then the two principal investigators (both bilingual, one Mexican American) resolved discrepancies jointly.

Measures

Psychological Sense of School Membership (PSSM)

The 18-item Psychological Sense of School Membership (PSSM) scale is used to measure both adolescents' perception of school climate and relationship with nonparental adults (Goodenow, 1993). Adolescents report on a 5-point Likert-type scale ranging from 1 (not at all true) to 5 (completely true). Sample items include "I feel like a real part of my school," and "There is at least one teacher or other adult in this school I can talk to if I have a problem." A mean score was calculated, with a higher average indicating a greater sense of school belonging. Cronbach's α were .80 for urban students responding to the English version of the scale and .77 for the Spanish version in a study of middle school students with diverse ethnic backgrounds. In these samples, the PSSM was significantly correlated with self-reported motivation measures, expectancies for school success, subjective value of schoolwork, and school achievement, indicating good construct validity of the PSSM scale (Goodenow, 1993). In the current study, Cronbach's α was .83.

College-Going Self-Efficacy Scale (CGSES)

The CGSES (Gibbons & Borders, 2010), measures an individual's confidence that he or she would be able to complete tasks leading to college-going at a high level of competence. If a student does not feel confident that he or she can carry out key tasks, it is less likely that the student would state an aspiration for postsecondary education or engage in preparatory behaviors (Gibbons & Borders, 2010). CGSES items relate to college access (e.g., "I can make an educational plan that will prepare me for college") and college persistence (e.g., "I could do the class work and homework assignments in college classes"), with 30 items on a 4-point Likert scale (1 = not at all sure, 4 = very sure). The scale was developed for and validated on a diverse middle school sample, including White, Black, and Latino students, some of whom would be first generation college students. Prior work demonstrated acceptable reliability and validity, with differences between the first generation and nonfirst generation participants as well as a single factor solution supporting the validity of the scale (Gibbons & Borders, 2010). Per recommended scoring, the current study utilized a total summed score for the CGSES, with

higher scores indicating stronger self-efficacy for the tasks. Cronbach's α for the current study was 0.97.

Moods and Feelings Questionnaire (MFQ)

The Mood and Feelings Questionnaire (Angold, Costello, Pickles, Winder, & Silver, 1987) was used to assess students' depressive symptoms. The 33-item Likert-type scale measures the extent to which students experienced depressive symptoms in the past 2 weeks. The measure included items such as "I didn't enjoy anything at all" and "I felt I was no good anymore," and students reported whether the statement was not true (0), sometimes true (1) or mostly true (2). The MFQ has been utilized with Latino participants previously (e.g., Chartier et al., 2008). This measure has demonstrated adequate validity, as it was used to discriminate between subjects with and without major depressive episodes (Daviss et al., 2006). Reliability in the Daviss sample was very good ($\alpha = .95$); in the current sample it was .94. The items were averaged to compute a mean score to represent total depressive symptoms, with higher scores indicating more symptomatology.

Way Discrimination Scale (WDS)

This 21-item discrimination measure was developed based on in-depth, semistructured interviews with over 150 African American, Latino, and Asian American adolescents (Rosenbloom & Way, 2004). Adolescents reported whether they experienced a specific type of discrimination on a Likert scale ranging from "never" (1) to "all of the time" (5). In previous research, the WDS responses were dichotomized to 0 and 1 because of low level of endorsement at the higher frequency (Rivas-Drake, Hughes, & Way, 2008). This step was taken with the current data as well, as the mean level of discrimination reported was similar to previous studies. Thus, zero represented "never" and one represented any reported instance of discrimination, whether infrequent or frequent. Items with ones were summed to represent total discriminatory events, with higher scores indicating more types of experiences. The sum score was within acceptable ranges of skewness and kurtosis. Three items describe positive expectations because of race or ethnicity, but those were not utilized in the current study. Students rated each item for both peer and adult sources of discrimination within the school. Sample items include, "How often do you feel that other students (adults) in school make fun of you because of your race or ethnicity?" and "How often do you feel that other students (adults) in school expect that you will get bad grades because of your race or ethnicity?" The scale has demonstrated adequate psychometric properties, including excellent test-retest reliability (Greene et al., 2006). Validity has been established as studies using these scales across multiple ethnic groups have found that endorsement of discrimination on this scale is associated with symptomatology (e.g., Greene et al., 2006) and ethnic identity (Rivas-Drake et al., 2008). In the current sample, the dichotomized measure demonstrated adequate reliability (Kuder-Richardson $\alpha = .96$ for peer, $\alpha = .95$ for adult).

Child and Adolescent Social Support Scale (CASSS)

These 36 items were taken from the 40-item Child and Adolescent Social Support Scale (CASSS) Version 2 to measure adolescents' perceived social support from classmates, teachers,

and parents. Parent support was not included in the current study, so adult support will signify teachers, counselors, and staff. Frequency ratings consisted of a 6-point Likert scale from 1 (never) to 6 (always), and the mean score was calculated for analysis. Higher means signified greater perceived support. Sample items included “My classmates like most of my ideas and opinions,” and “My teacher(s) takes time to help me learn to do something well.” Cronbach’s α in the original study was .94 for both males and females, .94 for White, and .95 for minority students (Demaray & Malecki, 2002). In the current study, reliability was .95 for support from classmates and .95 for support from adults. The CASSS was correlated with other measures of social support (e.g., the Social Support Scale for Children at $r = .70$), which supports convergent validity (Demaray & Malecki, 2002).

Demographic information

Relevant demographic data were collected, such as the participant’s age, grade in school, sex, country of birth, and age of migration if born elsewhere.

Results

Preliminary Analyses

The WDS was formatted such that the peer discrimination response column appeared first on the page and adult discrimination appeared second. Almost 17% of the sample (or 30 participants) skipped the entire adult discrimination scale, possibly because of its placement immediately adjacent to the peer items. Those 30 participants did answer peer discrimination items (97.5%) and, thus, seemed willing to engage with the topic. For the data to be described as MAR (missing at random), the missing values must not depend on the value of the variable itself (Little, 1988). Maximum likelihood estimation can proceed under the MAR assumption, as opposed to the more restrictive MCAR assumption, and unbiased estimates of model parameters can be produced (Enders, 2001). Both Ridout’s logistic test and Fairclough’s logistic test pointed to data that were MAR (Fielding, Fayers, & Ramsay, 2009). Thus, we felt that it was reasonable to use full information maximum likelihood (FIML) estimation (available in SAS version 9.3, SAS Institute, Cary, NC) to estimate the regression model (Allison, 2012). FIML is preferred as a method for addressing missing data because it has minimum sampling variance, it handles both analysis and missing data steps within a single model, and is straightforward and simple in its implementation, thus reducing the possibility of researcher error. Although FIML can be used in the context of structural equation modeling, the analysis here was a linear regression model or path model. As a check, the researchers repeated the main regression models with the cases that were not missing adult discrimination data ($N = 151$) and the estimates showed the same patterns in terms of significance, size, and directionality as were present in the models with full participant data.

Means, SDs, and correlations among the variables of interest are displayed in Table 1. Participants rated their school as supportive, with means for adult support and peer support both fairly high on a 6-point scale. However, ~80% of the sample did report at least one discriminatory incident at school. The frequency of those experiences was low, with those who did report discrimination rating it between “rarely” and “sometimes” occurring. Covariate

analyses indicated that biological sex and age were significantly related to both the outcome and predictor variables. There was a significant effect for sex, with males having higher adult discrimination means, $t(181) = -2.18, p = .03$ and lower adult support means, $t(181) = 2.61, p = .01$. There were also weak correlations between being older and experiencing less college-going self-efficacy ($r = -.19, p = .01$), less school belonging ($r = -.21, p = .004$), less support from adults ($r = -.22, p = .003$), and more perceived discrimination from adults ($r = .33, p < .0001$) and from peers ($r = .24, p = .001$). Nativity was not associated with any of the variables so it was not retained as a covariate. College-going self-efficacy and sense of school belonging were correlated with all other variables; positive associations were found with college-going self-efficacy, school belonging, adult support, and peer support. Depressive symptoms also correlated with all other study variables in the expected directions (negative for self-efficacy, belonging and support, positive for discrimination). The correlations between the adult and peer support variables and the adult and peer discrimination variables were moderately high, but a screen for multicollinearity was negative (i.e., all variable inflation factors under 2).

Table 1
Means, SDs, and Pearson Correlation Coefficients (N = 179)

| Variables | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|--------------------------------|---------|---------|---------|---------|---------|---------|------|
| 1. College-going self-efficacy | | | | | | | |
| 2. School belonging | 0.52** | | | | | | |
| 3. Depressive symptoms | -0.19* | -0.31** | | | | | |
| 4. Adult support | 0.41** | 0.65** | -0.20** | | | | |
| 5. Adult Discrimination | -0.32** | -0.38** | 0.18* | -0.42** | | | |
| 6. Peer support | 0.50** | 0.62** | -0.31** | 0.65** | -0.27** | | |
| 7. Peer Discrimination | -0.34** | -0.36** | 0.35** | -0.29** | 0.68** | -0.30** | |
| Mean | 89.19 | 3.76 | 0.28 | 4.97 | 3.97 | 4.60 | 5.64 |
| SD | 19.42 | 0.60 | 0.30 | 0.92 | 5.68 | 1.01 | 6.02 |

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

Means, SDs, and Pearson Correlation Coefficients (N = 179)

Main Regression Models

A series of linear regression models were estimated examining the main effects of adult discrimination, peer discrimination, adult support, and peer support while controlling for age and sex (see Table 2). All models converged to a solution using maximum likelihood estimation. Because of the possibility of a Type I error with three statistical analyses, a more conservative cutoff value was utilized ($|t| > 2.56$, equivalent to $p < .01$). Increased sense of school belonging was predicted by the presence of support from peers and from adults, but was unrelated to either peer or adult discrimination (baseline model $\chi^2(21) = 458.8, p < .0001$). The total model predicted 52% of the variance in school belonging and had a large Cohen's f^2 effect size (1.07), calculated as $R^2/1-R^2$ (Aiken & West, 1991). Students' beliefs in their ability to complete tasks important for college-going were positively predicted by support from peers, but no adult variables were significantly related to college going self-efficacy (baseline model $\chi^2(21) = 394.5, p < .0001$). The model predicted 31% of the variance in college going self-efficacy and had a large effect size (0.46) per Cohen's f^2 . Depressive symptoms were positively predicted by discrimination from peers and negatively predicted by support from peers (baseline model $\chi^2(21) = 366.5, p < .0001$). None of the adult variables had a significant association with depressive

symptoms. The model accounted for 20% of the variance in depressive symptoms, with a moderate effect size ($f^2 = 0.24$).

Table 2
Linear Regression Models Predicting School Belonging, College-Going Self-Efficacy, and Depressive Symptoms (Controlling for Age and Sex)

| Predictor variables | School belonging | College-going self-efficacy | Depressive symptoms |
|----------------------|------------------|-----------------------------|---------------------|
| | Estimate (SE) | Estimate (SE) | Estimate (SE) |
| Age | -0.04 (0.03) | -1.64 (0.98) | 0.01 (0.02) |
| Sex | -0.01 (0.06) | -2.93 (2.52) | -0.09 (0.04) |
| Adult support | 0.24* (0.05) | 1.22 (1.93) | 0.00 (0.03) |
| Adult Discrimination | -0.00 (0.01) | 0.06 (0.41) | -0.00 (0.00) |
| Peer support | 0.20* (0.04) | 8.04* (1.67) | -0.08* (0.03) |
| Peer discrimination | -0.01 (0.01) | -0.62 (0.35) | 0.02* (0.01) |
| Adjusted R^2 | 0.50 | 0.31 | 0.20 |
| Cohen's f^2 | 1.07 | 0.46 | 0.24 |

* $p < .01$.

Linear Regression Models Predicting School Belonging, College-Going Self-Efficacy, and Depressive Symptoms (Controlling for Age and Sex)

Moderation Analyses

Additional regression models with interaction terms were run to test whether support functioned to moderate the influence of discrimination on the three outcomes (Aiken & West, 1991). All of the predictor variables were centered and their interactions were calculated. The interaction terms for all four contexts and stressor were tested (e.g., peer support \times peer discrimination, adult support \times adult discrimination, peer support \times adult discrimination, and adult support \times peer discrimination). None of the interactions were significant for the school belonging and college going self-efficacy outcomes. However, the peer discrimination \times peer support interaction was significant for the prediction of depressive symptoms ($B = -.01$, $t = -2.56$) and this interaction added 2% to the variance explained by the total model. To probe the interaction term, a trimmed model with just peer support and discrimination and its interaction was estimated to test simple slopes using an online calculation utility (Preacher, Curran, & Bauer, 2006). Simple slope values were calculated by treating peer support as the moderator variable and quantifying more peer support as 1 SD above the mean and less peer support at 1 SD below the mean. The simple slopes for both an average level ($B = .01$, $p = .0003$) and a low level of peer support were significant ($B = .02$, $p < .0001$) (see Figure 1). Thus, under conditions of low and average levels of peer support, peer discrimination was associated with greater depressive symptoms. However, peer discrimination was not related with greater depressive symptoms in the context of higher levels of peer support.

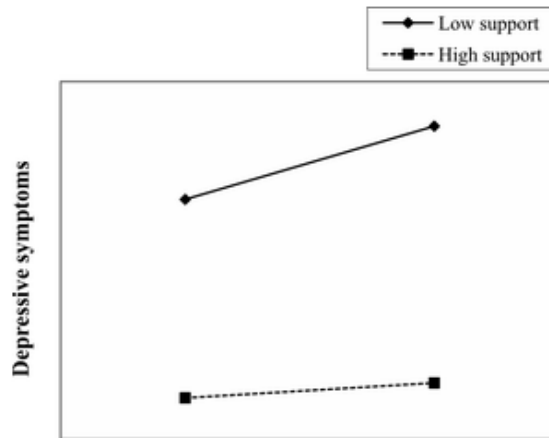


Figure 1. Moderating influence of peer support on the relationship between peer discrimination and depressive symptoms.

Discussion

The current study contributed to the literature on Latino adolescents by evaluating how discrimination and support predicted cognitive, social, and emotional developmental competencies in the school context. Peer support played a central role for these participants, increasing their sense of connection to the school environment, increasing efficacy for college-going tasks, and reducing the association with depressive symptoms. Support from adults at school, however, was only predictive of feelings of school belonging (taking peer support into account). In these findings, peer support was a key part of the promotive effect of the school environment (Garcia Coll et al., 1996). Although discrimination from both adults and peers were related to the outcomes bivariately, the association was offset in the regression models by the presence of support, especially for academic outcomes. This suggests that social support serves as a compensatory mechanism instead of a protective one (Fergus & Zimmerman, 2005), and that students can benefit from social support regardless of their level of discrimination. Peer support did provide a protective effect for peer discrimination only in predicting depressive symptoms, but this was a small effect in a limited range, suggesting that it still functions primarily in a compensatory manner.

Because of the immigrant origins of the students in this sample (98% had at least one foreign-born parent), it was encouraging that school belonging was predicted by both peer and nonparental adult support. This may help practitioners identify factors that could contribute to promoting environments for other similar adolescents, even given the presence of bias and discrimination (Garcia Coll et al., 1996). School counselors, psychologists, and teachers can provide and model for students various forms of support such as inviting students to join in activities (emotional), providing information to help solve problems (informational), giving fair treatment to all students in the school (appraisal), or taking time to help a student learn something well (instrumental) (Malecki & Demaray, 2003). Peers may be sources of information as well, but it seems likely that their key contribution would be in offering emotional support (Azmitia & Cooper, 2001).

College-going self-efficacy was highly influenced by peer support, which may provide commentary on the key role played by adolescents' contemporaries. Although adults should

continue to build student efficacy for educational planning tasks, they also should not underestimate how powerful it could be to involve peers in those activities. Peer leaders who represent all ethnic groups in the school could receive training about the resources available in the counselor's office, so that they would be ready to answer questions, provide ideas or information, or help peers with tasks such as completing college applications or searching for financial aid. A peer-supported emergent Latino identity as college-going and successful could be a powerful influence in the school context. Although there are many risks for negative academic outcomes reflected in the literature, this study points to an important potential promoting environment within the Latino peer group.

The depressive symptoms outcome was distinct in several ways. It was the only example of an adverse outcome in the study and the only mental health related outcome. While peer support did moderate peer discrimination, this interaction only explained a small percentage of the variance, suggesting that the majority of the effect is still a main effect. Because of the mixed findings in past research regarding the moderating relationship of social support between stress and depressive symptoms, even a limited finding in this regard still contributes to the literature (Cheng, 1997; Tummala-Narra & Claudius, 2013). Figure 1 shows there was a slightly higher risk of depressive symptoms only for those experiencing low levels of peer support when discrimination was high. To untangle the relationship between peer discrimination, support, and depressive symptoms, future work should identify which peers are discriminating at a high level of frequency or intensity and which peers are offering their support. The assumption may be that discriminatory acts committed by those in the ethnic majority are offset by the support offered by those ethnically similar to the participants, but this assumption should be tested. Within the school context, counselors and psychologists could provide structured opportunities for both coethnic and cross-ethnic peer support to be developed.

Implications and Future Research

Building a strong relationship with peers and teachers and engaging in planning for postsecondary education are important developmental competencies that allow Latino students to take advantage of their current developmental context and continue on a positive trajectory. In addition, students who are able to cope with stressors and access support, perhaps avoiding hopelessness and depressive symptomatology, may be better able to develop emotional regulation and emotional competencies. These findings will inform psychologists, counselors, social workers, and other mental health practitioners who are attempting to promote Latino adolescents' cognitive, social, and emotional wellbeing.

First, the study suggests that developing social support in the school setting can enhance positive outcomes for adolescents, even those with concurrent risk factors. The experience of peer and adult support in the schools enhanced some types of compensatory responses and could be a focal point for strengths-based efforts to promote developmental competencies. Because peer support was found to be an influential predictor across all outcomes, it merits attention for its potential to create resiliency through relationships. Whereas adults are responsible for shaping the school environment and protecting vulnerable youth from harming themselves or others, they can view part of their responsibility as teaching adolescents how to form positive and supportive peer relationships. School counselors or psychologists could train peer helpers to notice signs of

depression in their friends and become part of the referral system to get effective mental health services for them. This might be particularly effective in situations where Latino adolescents may understand the cultural component to their friends' expressions of hopelessness in a way that the counselor or psychologist may not (Stein et al., 2012). A peer mediation program is another way that peers could confront instances of discrimination and simultaneously provide support to each other. However, teachers and other adults in school could also form a promoting environment, creating opportunities for peer support to develop through classroom activities, leadership of student organizations, sports or service opportunities, music and arts, and so forth. Mental health practitioners in any setting could consider the importance of social skills training for adolescents who may be having a difficult time accessing a peer network.

Second, our findings confirm that the risk factor represented by peer discrimination is associated with negative mental health outcomes in the form of depressive symptoms. Because of past findings on the harmful effects of discrimination, it is worth monitoring as a risk to personal wellness and academic aspirations in a school environment. Even discrimination that is low in severity or frequency can create an inhibiting environment (Huynh, 2012). If Latino students are not accepted or integrated in their school environment, they will be less able to take advantage of multiple opportunities to build their developmental competencies and be prepared to enter young adulthood.

Limitations of the current study include taking a cross-sectional approach to developmental processes and utilizing participants from one school district only. In addition, there were missing data on the adult discrimination measure that needed to be handled statistically. We were also unable to disentangle discrimination based on ethnic group from discrimination because of phenotype, skin tone, or other features. Future research could specify which types of support were most influential (e.g., instrumental, emotional, informational, and appraisal) for specific outcomes, and which other developmental competencies might be aided by school-based support in addition to family support. In addition, but future work could examine what forms of social support are particularly useful for girls as compared with boys. This was not a clinically depressed group of adolescents, so future research also could explore the limits of peer support to enable resilient responses in moderately or severely depressed Latino youth. Qualitative research may also be useful to describe more fully what meaning was made of incidents of discrimination or support. The current findings highlight the important role peer support can play for Latino adolescents as they strive to build developmental competencies, even if they are simultaneously confronting the inhibiting factor of discrimination.

References

- Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Thousand Oaks, CA: Sage.
- Allison, P. D. (2012). Handling missing data by maximum likelihood. Retrieved from SAS Global Forum <http://support.sas.com/resources/papers/proceedings12/312-2012.pdf>
- Angold, A., Costello, E., Pickles, A., Winder, F., & Silver, D. (1987). The development of a questionnaire for use in epidemiological studies of depression in children and adolescents. Unpublished manuscript, London University.

- Azmitia, M., & Cooper, C. R. (2001). Good or bad? Peer influences on Latino and European American adolescents' pathways through school. *Journal of Education for Students Placed at Risk*, 6, 45–71. doi:10.1207/S15327671ESPR0601-2_4
- Benner, A. D., & Graham, S. (2011). Latino adolescents' experiences of discrimination across the first 2 years of high school: Correlates and influences on educational outcomes. *Child Development*, 82, 508–519. doi:10.1111/j.1467-8624.2010.01524.x
- Berkel, C., Knight, G. P., Zeiders, K. H., Tein, J., Roosa, M. W., Gonzales, N. A., & Saenz, D. (2010). Discrimination and adjustment for Mexican American adolescents: A prospective examination of the benefits of culturally related values. *Journal of Research on Adolescence*, 20, 893–915. doi:10.1111/j.1532-7795.2010.00668.
- Brewster, A. B., & Bowen, G. L. (2004). Teacher support and the school engagement of Latino middle and high school students at risk of school failure. *Child & Adolescent Social Work Journal*, 21, 47–67. doi:10.1023/B:CASW.0000012348.83939.6b
- Brislin, R. (1986). *The wording and translation of research instruments*. Thousand Oaks, CA: Sage.
- Casey-Cannon, S., Pasch, L. A., Tschann, J. M., & Flores, E. (2006). Nonparent adult social support and depressive symptoms among Mexican American and European American adolescents. *The Journal of Early Adolescence*, 26, 318–343. doi:10.1177/0272431606288592
- Chartier, M., Stoep, A. V., McCauley, E., Herting, J. R., Tracy, M., & Lymp, J. (2008). Passive versus active parental permission: Implications for the ability of school-based depression screening to reach youth at risk. *Journal of School Health*, 78, 157–164. doi:10.1111/j.1746-1561.2007.00278.x
- Cheng, C. (1997). Role of perceived social support on depression in Chinese adolescents: A prospective study examining the buffering model. *Journal of Applied Social Psychology*, 27, 800–820. doi:10.1111/j.1559-1816.1997.tb00660.x
- Colarossi, L. G., & Eccles, J. S. (2003). Differential effects of support providers on adolescents' mental health. *Social Work Research*, 27, 19–30. doi:10.1093/swr/27.1.19
- Crean, H. F. (2004). Social support, conflict, major life stressors, and adaptive coping strategies in Latino middle school students: An integrative model. *Journal of Adolescent Research*, 19, 657–676. doi:10.1177/0743558403260018
- Daviss, W. B., Birmaher, B., Melhem, N., Axelson, D., Michaels, S., & Brent, D. (2006). Criterion validity of the Mood and Feelings Questionnaire for depressive episodes in clinic and non-clinic subjects. *Journal of Child Psychology and Psychiatry*, 47, 927–934. doi:10.1111/j.1469-7610.2006.01646.x
- DeGarmo, D. S., & Martinez, C. R., Jr. (2006). A culturally informed model of academic well-being for Latino youth: The importance of discriminatory experiences and social support. *Family Relations*, 55, 267–278. doi:10.1111/j.1741-3729.2006.00401.x
- Demaray, M. K., & Malecki, C. K. (2002). The relationship between perceived social support and maladjustment for students at risk. *Psychology in the Schools*, 39, 305–316. doi:10.1002/pits.10018
- Department of Public Instruction. (2009). *North Carolina public schools: Statistical profile*. Raleigh, NC: State Board of Education.
- Edwards, L. M., & Romero, A. J. (2008). Coping with discrimination among Mexican descent adolescents. *Hispanic Journal of Behavioral Sciences*, 30, 24–39. doi:10.1177/0739986307311431

- Enders, C. K. (2001). The performance of the full information maximum likelihood estimator in multiple regression models with missing data. *Educational and Psychological Measurement, 61*, 713–740. doi:10.1177/00131640121971482
- Fergus, S., & Zimmerman, M. A. (2005). Adolescent resilience: A framework for understanding health development in the face of risk. *Annual Review of Public Health, 26*, 399–419. doi:10.1146/annurev.publhealth.26.021304.144357
- Fielding, S., Fayers, P., & Ramsay, C. (2009). Investigating the missing data mechanism in quality of life outcomes: A comparison of approaches. *Health and Quality of Life Outcomes, 7*, 57–67. doi:10.1186/1477-7525-7-57
- García Coll, C., Crnic, K., Lamberty, G., Wasik, B. H., Jenkins, R., Vazquez García, H., & McAdoo, H. P. (1996). An integrative model for the study of developmental competencies in minority children. *Child Development, 67*, 1891–1914. doi:10.2307/1131600
- Garnefski, N., & Diekstra, R. F. W. (1996). Perceived social support from family, school, and peers: Relationship with emotional and behavioral problems among adolescents. *Journal of the American Academy of Child & Adolescent Psychiatry, 35*, 1657–1664. doi:10.1097/00004583-199612000-00018
- Gibbons, M. M., & Borders, L. D. (2010). A measure of college-going self-efficacy for middle school students. *Professional School Counseling, 13*, 234–243. doi:10.5330/PSC.n.2010-13.234
- Goodenow, C. (1993). The psychological sense of school membership among adolescents: Scale development and educational correlates. *Psychology in the Schools, 30*, 79–90. doi:10.1002/1520-6807(199301)30:1<79::AID-PITS2310300113>3.0.CO;2-X
- Greene, M. L., Way, N., & Pahl, K. (2006). Trajectories of perceived adult and peer discrimination among Black, Latino, and Asian American adolescents: Patterns and psychological correlates. *Developmental Psychology, 42*, 218–236. doi:10.1037/0012-1649.42.2.218
- Hammack, P. L. (2003). Toward a unified theory of depression among urban African American youth: Integrating socioecologic, cognitive, family stress, and biopsychosocial perspectives. *The Journal of Black Psychology, 29*, 187–209. doi:10.1177/0095798403029002004
- Huynh, V. W. (2012). Ethnic microaggressions and the depressive and somatic symptoms of Latino and Asian American adolescents. *Journal of Youth and Adolescence, 41*, 831–846. doi:10.1007/s10964-012-9756-9
- Huynh, V. W., & Fuligni, A. J. (2010). Discrimination hurts: The academic, psychological, and physical well-being of adolescents. *Journal of Research on Adolescence, 20*, 916–941. doi:10.1111/j.1532-7795.2010.00670.x
- Hwang, W.-C., & Goto, S. (2008). The impact of perceived racial discrimination on the mental health of Asian American and Latino college students. *Cultural Diversity & Ethnic Minority Psychology, 14*, 326–335. doi:10.1037/1099-9809.14.4.326
- Kenny, M. E., Blustein, D. L., Chaves, A., Grossman, J. M., & Gallagher, L. A. (2003). The role of perceived barriers and relational support in the educational and vocational lives of urban high school students. *Journal of Counseling Psychology, 50*, 142–155. doi:10.1037/0022-0167.50.2.142

- Little, R. J. A. (1988). A test of missing completely at random for multivariate data with missing values. *Journal of the American Statistical Association*, 83, 1198–1202. doi:10.1080/01621459.1988.10478722
- López, E. J., Ehly, S., & García-Vásquez, E. (2002). Acculturation, social support and academic achievement of Mexican and Mexican American high school students: An exploratory study. *Psychology in the Schools*, 39, 245–257. doi:10.1002/pits.10009
- Malecki, C. K., & Demaray, M. K. (2003). What type of support do they need? Investigating student adjustment as related to emotional, informational, appraisal, and instrumental support. *School Psychology Quarterly*, 18, 231–252. doi:10.1521/scpq.18.3.231.22576
- Martinez, C. R., Jr., DeGarmo, D. S., & Eddy, J. M. (2004). Promoting academic success among Latino youths. *Hispanic Journal of Behavioral Sciences*, 26, 128–151. doi:10.1177/0739986304264573
- Pérez, D. J., Fortuna, L., & Alegria, M. (2008). Prevalence and correlates of everyday discrimination among US Latinos. *Journal of Community Psychology*, 36, 421–433. doi:10.1002/jcop.20221
- Perez, W., Espinoza, R., Ramos, K., Coronado, H., & Cortes, R. (2009). Academic resilience among undocumented Latino students. *Hispanic Journal of Behavioral Sciences*, 31, 149–181. doi:10.1177/0739986309333020
- Perreira, K. M., Fuligni, A., & Potochnick, S. (2010). Fitting in: The roles of social acceptance and discrimination in shaping the academic motivations of Latino youth in the US Southeast. *Journal of Social Issues*, 66, 131–153. doi:10.1111/j.1540-4560.2009.01637
- Potochnick, S., Perreira, K. M., & Fuligni, A. (2012). Fitting in: The roles of social acceptance and discrimination in shaping the daily psychological well-being of Latino youth. *Social Science Quarterly*, 93, 173–190. doi:10.1111/j.1540-6237.2011.00830.x
- Preacher, K. J., Curran, P. J., & Bauer, D. J. (2006). Computational tools for probing interactions in multiple linear regression, multilevel modeling, and latent curve analysis. *Journal of Educational and Behavioral Statistics*, 31, 437–448. doi:10.3102/10769986031004437
- Rivas-Drake, D., Hughes, D., & Way, N. (2008). A closer look at peer discrimination, ethnic identity, and psychological well-being among Chinese American sixth graders. *Journal of Youth and Adolescence*, 37, 12–21. doi:10.1007/s10964-007-9227-x
- Roche, C., & Kuperminc, G. P. (2012). Acculturative stress and school belonging among Latino youth. *Hispanic Journal of Behavioral Sciences*, 34, 61–76. doi:10.1177/0739986311430084
- Roderick, M., Coca, V., & Nagaoka, J. (2011). Potholes on the road to college high school effects in shaping urban students' participation in college application, four-year college enrollment, and college match. *Sociology of Education*, 84, 178–211. doi:10.1177/0038040711411280
- Rosenbloom, S. R., & Way, N. (2004). Experiences of discrimination among African American, Asian American, and Latino adolescents in an urban high school. *Youth & Society*, 35, 420–451. doi:10.1177/0044118X03261479
- Stein, G. L., Gonzalez, L. M., & Huq, N. (2012). Cultural stressors and the hopelessness model of depressive symptoms in Latino adolescents. *Journal of Youth and Adolescence*, 41, 1339–1349. doi:10.1007/s10964-012-9765-8
- Stone, S., & Han, M. (2005). Perceived school environments, perceived discrimination, and school performance among children of Mexican immigrants. *Children and Youth Services Review*, 27, 51–66. doi:10.1016/j.chilyouth.2004.08.011

- Szalacha, L. A., Erkut, S., Coll, C. G., Alarcón, O., Fields, J. P., & Ceder, I. (2003). Discrimination and Puerto Rican children's and adolescents' mental health. *Cultural Diversity & Ethnic Minority Psychology, 9*, 141–155. doi:10.1037/1099-9809.9.2.141
- Tummala-Narra, P., & Claudius, M. (2013). Perceived discrimination and depressive symptoms among immigrant-origin adolescents. *Cultural Diversity & Ethnic Minority Psychology, 19*, 257–269. doi:10.1037/a0032960
- Umaña-Taylor, A. J., & Updegraff, K. A. (2007). Latino adolescents' mental health: Exploring the interrelations among discrimination, ethnic identity, cultural orientation, self-esteem, and depressive symptoms. *Journal of Adolescence, 30*, 549–567. doi:10.1016/j.adolescence.2006.08.002
- Villalba, J. A., Jr. (2007). Culture-specific assets to consider when counseling Latina/o children and adolescents. *Journal of Multicultural Counseling and Development, 35*, 15–25. doi:10.1002/j.2161-1912.2007.tb00046.x
- Woolley, M. E., Kol, K. L., & Bowen, G. L. (2009). The social context of school success for Latino middle school students direct and indirect influences of teachers, family, and friends. *The Journal of Early Adolescence, 29*, 43–70. doi:10.1177/0272431608324478
- Zeiders, K. H., Umaña-Taylor, A. J., & Derlan, C. L. (2013). Trajectories of depressive symptoms and self-esteem in Latino youths: Examining the role of gender and perceived discrimination. *Developmental Psychology, 49*, 951–963. doi:10.1037/a0028866