The present study further evaluated contextual factors (i.e., neighborhood violence and peer rejection) that contribute to academic performance by examining school attachment as a moderator of these associations in a sample of Latino high school students (N = 144, 54% male). Findings suggested that both neighborhood violence and peer rejection were negatively associated with academic performance. However, the influence of neighborhood violence depended on levels of school attachment, with neighborhood violence unrelated to poor academic performance when levels of school attachment were high. In contrast, peer rejection was robustly associated with poor academic performance, regardless of the level of school attachment. Implications of findings are discussed.

© 2014 Wiley Periodicals, Inc.
academic performance (Bierman, 2004; Fite, Wimsatt, Vitulano, Rathert, & Schwartz, 2012; Masten et al., 2005; Mathews, Dempsey, & Overstreet, 2009; Milam, Furr-Holden, & Leaf, 2010; Schwartz & Gorman, 2003). However, more research in this area is needed, as factors that contribute to the links between these contextual factors and academic performance have not yet been evaluated.

From a prevention and intervention perspective, it is important to further understand the circumstances under which these contextual factors influence poor academic performance so that programs can be developed to prevent the lifelong difficulties associated with poor academic performance. School attachment, or how connected an individual feels to their school (Libby, 2004), may help children overcome the negative effects of these contextual risk factors on academic performance by providing a sense of belonging that results in adolescents striving to perform well academically. Accordingly, the current study evaluated school attachment as a moderator of these associations in a sample of Latino adolescents, a population that has been found to be at increased risk for poor academic outcomes (e.g., LeCroy & Krysik, 2008).

Census data suggest that the Latino population in the United States continues to grow rapidly, as the number of individuals identifying as Latino grew by 43% between the 2000 and 2010 census (Ennis, Rios-Vargas, & Albert, 2011). In fact, it is estimated that Latino youth will comprise 35% of the population of those younger than 17 years of age living in the United States by the year 2050 (Passel & Cohn, 2008). Despite this rapid population growth, little research exists examining what factors contribute to academic performance among Latino youth. Further work in this area is clearly needed given extant evidence, which suggests that Latino youth are at increased risk for low levels of academic performance (LeCroy & Krysik, 2008; Mau, 1995) and are more likely to drop out of high school than youth from other racial or ethnic groups (KewalRamani, Gilbertson, Fox, & Provasnik, 2007). A smaller percentage of Latino youth score at or above proficiency on national academic achievement tests compared to White or Asian/Pacific Islander students (KewalRamani et al., 2007).

Moreover, whereas 89% of Latino youth and young adults believe college is an important contributor to long-term success, only 48% report that they plan to attend college (Lopez, 2009). Considering the growing rate of Latino youth residing in the United States as well as the concerns related to their academics, understanding what factors may contribute to the academic success of Latino youth is essential.

**Neighborhood Violence and Peer Rejection as Risk Factors of Poor Academic Performance**

Previous research has consistently documented the pernicious effects of neighborhood violence, which can comprise both witnessing and being a victim of violence within one’s neighborhood, on youth’s psychological and social adjustment. Exposure to violence in the neighborhood has been linked to symptoms of depression (Singer, Anglin, Song, & Lunghofer, 1995), aggressive behavior (Bradshaw, Rodgers, Ghandour, & Garbarino, 2009), delinquency (Rosario, Salzinger, Feldman, & Ng-Mak, 2003), and posttraumatic stress symptoms (Mathews et al., 2009). Growing evidence also indicates that neighborhood violence is associated with poor academic functioning, including lower grades, more school absences, and poorer performance on standardized tests (Bowen & Bowen, 1999; Eamon, 2005; Henrich, Schwab-Stone, Fanti, Jones, & Ruchkin, 2004; Henry, Merten, Plunkett, & Sands, 2008; Mathews et al., 2009; Milam et al., 2010; Schwartz & Gorman, 2003).
In a sample of Latino adolescents from immigrant families, residing in a neighborhood with more violence, substance use, poverty, and other risk factors was negatively related to grade point average (Henry et al., 2008). The mechanisms through which neighborhood violence interferes with youth’s academic achievement remain unclear at present; initial findings suggest that symptoms of posttraumatic stress (Mathews et al., 2009), depression, and disruptive behavior (Schwartz & Gorman, 2003) are driving this association. Exposure to neighborhood violence has also been found to be associated with lower levels of perceived safety at school and in the neighborhood as well as decreased parental support and school involvement, which in turn predicted poorer academic performance among male adolescents (Patton, Woolley, & Hong, 2012).

Similarly, there is a growing body of evidence to suggest that peer rejection is associated with a host of negative outcomes (Bierman, 2004; Coie, 1990; Hawkins, Lishner, Catalano, & Howard, 1986), including poor academic performance (Benner, 2011; Bierman, 2004; Coie, 1990; Hinshaw, 1992; Masten at al., 2005; Fite et al., 2012; Fite, Hendrickson, Rubens, Gabrielli, & Evans, 2013; Shin, Daly, & Vera, 2007). For example, peer rejection in kindergarten has been shown to predict a significant decrease in school engagement, as indicated by participation in classroom activities and school avoidance, by Grade 5 (Buhs, Ladd, & Herald, 2006). Another longitudinal study found that consistently rejected children displayed persistent academic difficulties compared to youth who were not rejected (Greenman, Schneider, & Tomada, 2009).

Moreover, children who became rejected exhibited a progressive decline in their academic performance over an 18-month period, whereas others who became accepted by peers showed an improvement in their achievement over time. Feelings of loneliness were also found to be related to poor academic progress and exit exams in a longitudinal study of Latino adolescents (Benner, 2011). Peer rejection is a stressful life event that is believed to result in negative outcomes due to feelings of isolation and a failure to bond with conventional social institutions (e.g., Bierman, 2004; Dodge et al., 2003; Prinstein & Aikins, 2004; Prinstein, Boergers, Spirito, Little, & Grapentine, 2000). That is, children who are rejected by their peers may become less invested in the norms of conventional social institutions (such as school), putting them at risk for subsequent problem behaviors, including academic difficulties. Additionally, rejection by peers may hinder a child’s ability to confidently interact in social environments, such as school, ultimately interfering with academic performance (Bierman, 2004; Rubin, Bukowski, & Parker, 1998).

Thus, there is evidence to suggest that both neighborhood violence and peer rejection contribute to academic performance. However, not all youth who are rejected by peers or reside in violent neighborhoods perform poorly in school. Thus, it is important to consider other factors, such as school attachment, that may buffer the effect of these contextual risk factors on academic performance.

**School Attachment as a Potential Moderator**

The Social Development Model posits that individuals learn both adaptive and maladaptive behavior through involvement in social activities within their environment (e.g., Catalano, 1982; Catalano, Haggerty, Oesterle, Fleming, & Hawkins, 2004; Catalano & Hawkins, 1996; Hawkins & Weis, 1985). When children experience consistency within their environment, they develop an attachment to and investment in the activity and the individuals involved (i.e., school, family, peers, and the larger community). With regard to the school environment, attachment can include relationships with teachers, staff, and
peers in addition to an overall feeling of safety. Students can also become attached to particular activities and experiences within the school environment.

Once attached, individuals are likely to adopt the norms of the group and conform to the behavior of group members. In contrast, if children do not become invested and attached, they may reject group norms and engage in behavior that is contrary to that of group members. Thus, how attached and committed an individual is to their school has the potential to influence academic outcomes both positively and negatively (Catalano et al., 2004). So when academics are valued within the school, students who feel connected should strive to perform well academically.

Indeed, school attachment is associated with numerous academic outcomes, including academic performance, risk for school drop-out, academic attainment, and grade point average (GPA), and these associations have been consistently found across racial and ethnic groups (Lecroy & Krysik, 2008; MacNeal, 1995; Reyes & Jason, 1993; Ruffalo, 2006; Valverde, 1987). For example, although Hispanic youth reported lower mean GPAs and levels of school attachment than non-Hispanic White youth, high levels of school attachment were associated with high GPAs across both ethnic groups (Lecroy & Krysik, 2008). Similarly, school belongingness has been found to be associated with school success in a nationally representative sample of youth (Goodenow & Grady, 1993).

However, it is not clear how school attachment may affect the link between contextual risk factors and academic performance. To our knowledge, there has been no research examining whether school attachment can buffer the influence of contextual risk factors on poor academic performance. Importantly, bonding to a conventional social institution, such as school, has been identified as a protective factor for a multitude of outcomes (Catalano et al., 2004). Thus, it may be that attachment to school can mitigate the association between these contextual risk factors and academic performance by helping individuals feel safe at school and cope with the psychological distress experienced as a result of exposure to neighborhood violence and/or peer rejection. Accordingly, the current study examined school attachment as a moderator of the associations between neighborhood violence and peer rejection and academic performance.

**Current Study**

To better understand contextual factors that contribute to academic performance, the current study examined whether school attachment moderated the links between neighborhood violence and peer rejection and academic performance. School attachment was expected to buffer associations, such that high levels of school attachment would attenuate the associations between these contextual risk factors and poor academic performance.

**METHOD**

**Participants**

The present study included 144 Latino adolescents (mean age = 16.25 years; 54% male) who attend a charter high school located in a large, Midwestern city and their second-hour teachers. The majority of the student body (approximately 95%) identified as Latino, with school data indicating that approximately 90% of the Latino student body reports a Mexican heritage. School records further indicated that 95.4% of students at this school qualified for free or reduced lunch fees.
In accordance with the protocol approved by the researchers’ institutional review board and the charter school’s administration, recruitment took place during parent–teacher conferences. Consent forms were provided in both English and Spanish, given that Spanish was the primary language of many of the parents. School-sanctioned translators assisted the researchers in providing families with information about the study and answering their questions. For those parents who did not attend parent–teacher conferences, consent forms were sent home with their adolescents. These students could return the signed forms to the school, which then provided the forms to the research team. Students who were 18 years of age or older were able to provide consent for their own participation.

Of the 207 students enrolled in this school, 155 (77%) received written permission to participate in the study; 142 students received parental consent and 13 students were old enough to provide consent for themselves. Approximately two thirds of the returned consent forms were the Spanish version. Participants provided assent prior to beginning the survey. A total of 152 out of the 155 students with permission to participate actually completed the survey, with the other three students absent during data collection sessions. The current study includes the 144 participants who self-identified as Hispanic/Latino on the demographics form of the survey. Approximately 56% of the students were born in the United States and 44% born outside the United States.

**Procedures**

Teachers were asked to complete online surveys regarding their students’ behavior, peer relationships, and academic performance. More specifically, teachers were asked to complete the survey for each student who was enrolled in their second-hour period. Surveys took approximately 10 minutes to complete, and teachers had 2 weeks to complete the surveys. Teachers provided written informed consent prior to being given access to the survey and were compensated $10 for each survey they completed.

Students whose parents consented completed the survey during the normal school day with their second-hour peers. The class sizes ranged from 9–24 students. No school personnel were present in the room during the administration of the survey to ensure student confidentiality and to increase accuracy in responding. Upon receiving verbal consent from students, researchers read each question aloud while participants completed the paper-and-pencil survey. The survey took approximately 30 minutes to complete. School personnel provided a list of students who may prefer to complete the measures in Spanish. These students were given the option of completing the survey in Spanish; three completed this version. Participants were compensated $5 for their participation. Study documents were translated by a school-sanctioned translator.

**Measures**

**Demographics.** Students reported various demographic information, including gender, and age, and whether or not they were born in the United States.

**Neighborhood violence.** Student-reports of neighborhood violence were assessed using five items (Sampson, Raudenbush, & Felton, 1997). Students were asked how often the following events occurred in their neighborhood within the past 6 months: (a) a fight in which a weapon was used, (b) a violent argument between neighbors or friends, (c) a gang fight, (d) a robbery or mugging, and (e) a murder. Students responded using a 4-point scale ranging from 1 (*never*) to 4 (*often*). Items were averaged and used for analyses. The internal consistency of the scale was good in this sample ($\alpha = .83$).
Peer rejection. Teacher reports of four items from the Teacher Report Form (Achenbach & Rescorla, 2001) were used to evaluate peer rejection. These items assess whether or not the student (a) gets along with other kids, (b) feels others are out to get them, (c) gets teased, and (d) is liked by other kids. Teachers responded using a 3-point scale ranging from 1 (not true) to 3 (very or often true). Previous research using this subscale has found it to be correlated with other measures of related peer constructs, thus supporting its construct validity with school-age populations (e.g., Fite et al., 2012; Fite, Wynn, & Pardini, 2009). These items demonstrated adequate internal consistency within the current sample ($\alpha = .76$).

School attachment. Student-reports of school attachment were assessed using three items (“I feel close to people at this school,” “I am happy to be at this school,” and “I feel like I am a part of this school”) that were included in the National Longitudinal Study of Adolescent Health (Moody & Bearman, 1998; Libby, 2004). Students respond using a 5-point scale ranging from 1 (strongly disagree) to 5 (strongly agree). Items were averaged and used for analyses, with high scores indicating high levels of attachment to school. The internal consistency of this scale in the current sample was good ($\alpha = .81$).

Academic performance. Teachers responded using a 5-point Likert scale ranging from 1 (well below average) to 5 (well above average) to two items regarding student academic performance: “How does this child perform academically relative to other students in your class?” and “When thinking about this student how would you describe their overall academic performance (reputation based on all their classes)?” Items were averaged and used for analyses, with high scores indicating high levels of academic performance. The internal consistency of these two items was good ($\alpha = .93$).

RESULTS

Descriptive Statistics

Most (92.6%) of the sample reported at least one act of violence in their neighborhood, with approximately 76% of students reporting a violent argument between neighbors, 69% reporting issues with muggings or robberies, 67% reporting the use of weapons, 52% reporting a gang fights, and 46% reporting murder. Approximately 25.7% of students performed below average (average score < 3), 27% of students performed at the average level (average score = 3), and 47.3% of students performed above average (average score >3).

$t$ tests were evaluated to determine if there were mean differences on study variables based on nativity inside/outside the United States. Mean differences in academic performance across the two groups were found, $t(139) = 2.62, p = .01$, such that children born in the United States (mean $[M] = 3.52$) had higher levels of academic performance than those born outside the United States ($M = .305$). Accordingly, nativity was controlled for in subsequent regression analyses.

Means, standard deviations, ranges of scores, and correlations between variables can be found in Table 1. Girls exhibited higher levels of academic performance than boys ($r = .26, p = .00$) and those born inside the United States exhibited higher levels of academic performance than those born outside the United States ($r = -.22, p = .01$). Age was not correlated with any variable ($ps > .14$). High levels of neighborhood violence ($r = -.23$,
Table 1. Correlations and Descriptive Statistics of Study Variables

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Gender</td>
<td>−</td>
<td>−</td>
<td>−</td>
<td>−</td>
<td>−</td>
<td>−</td>
<td>−</td>
</tr>
<tr>
<td>2. Age</td>
<td>−.10</td>
<td>−</td>
<td>−</td>
<td>−</td>
<td>−</td>
<td>−</td>
<td>−</td>
</tr>
<tr>
<td>3. Nativity</td>
<td>.16</td>
<td>.10</td>
<td>−</td>
<td>−</td>
<td>−</td>
<td>−</td>
<td>−</td>
</tr>
<tr>
<td>4. Neighborhood violence</td>
<td>−.11</td>
<td>−.05</td>
<td>.05</td>
<td>−</td>
<td>−</td>
<td>−</td>
<td>−</td>
</tr>
<tr>
<td>5. School attachment</td>
<td>.09</td>
<td>.12</td>
<td>−.10</td>
<td>−.12</td>
<td>−</td>
<td>−</td>
<td>−</td>
</tr>
<tr>
<td>6. Peer rejection</td>
<td>−.07</td>
<td>−.01</td>
<td>.01</td>
<td>−.07</td>
<td>−.09</td>
<td>−</td>
<td>−</td>
</tr>
<tr>
<td>7. Academic performance</td>
<td>.26*</td>
<td>.06</td>
<td>−.22*</td>
<td>−.23*</td>
<td>.16*</td>
<td>−.23*</td>
<td>−</td>
</tr>
</tbody>
</table>

Mean=16.25
SD=1.46
Range of scores=14–19

Note. Gender (1 = males, 2 = females); nativity (1 = U.S.-born, 2 = foreign-born); SD = standard deviation.

*p ≤ .05.

Table 2. First-Order Effects Regression Model

<table>
<thead>
<tr>
<th></th>
<th>β</th>
<th>SE</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>.25*</td>
<td>.08</td>
<td>3.17</td>
</tr>
<tr>
<td>Age</td>
<td>.05</td>
<td>.08</td>
<td>.70</td>
</tr>
<tr>
<td>Nativity</td>
<td>−.21*</td>
<td>.08</td>
<td>−2.7</td>
</tr>
<tr>
<td>Neighborhood Violence</td>
<td>−.21*</td>
<td>.08</td>
<td>−2.7</td>
</tr>
<tr>
<td>School attachment</td>
<td>.08</td>
<td>.08</td>
<td>.98</td>
</tr>
<tr>
<td>Peer rejection</td>
<td>−.22*</td>
<td>.08</td>
<td>−3.00</td>
</tr>
</tbody>
</table>

Note. SE = standard error; gender (1 = males, 2 = females); nativity (1 = U.S.-born, 2 = foreign-born).

*p ≤ .05.

*p = .01) and peer rejection (r = −.23, p = .01) were associated with low levels of academic performance, while high levels of school attachment were associated with high levels of academic performance (r = .16, p = .05).

First-Order Effects

As reported in Table 2, academic performance was simultaneously regressed on gender, age, nativity, neighborhood violence, school attachment, and peer rejection to determine unique effects (R² = .23, F = 6.55, p = .00). Consistent with correlation analyses, girls’ academic performance was higher than boys’ academic performance and youth born in the United States performed better academically than those born outside the United States. High levels of peer rejection and neighborhood violence were associated with low levels of academic performance; however, school bonding was unrelated to academic performance.

School Attachment as a Moderator

Multiplicative terms between school attachment and both neighborhood violence and peer rejection were created and added to the first-order effects model in order to determine if the associations between neighborhood violence and peer rejection and academic performance depended on levels of school attachment (R² = .25, F = 5.51, p = .00). Note that all variables were standardized prior to creating the interaction terms to aid in the
interpretation of results. School attachment moderated the association between neighborhood violence and academic performance (see Figure 1, $\beta = .16, p = .05$). At high levels of school attachment ($+1$ standard deviation [SD]), neighborhood violence was unrelated to academic performance ($\beta = -.08, p = .43$).

In contrast, neighborhood violence was negatively associated with academic performance when levels of school attachment were low ($-1SD; \beta = -.41, p = .00$), with the worst academic performance occurring when levels of neighborhood violence were high and levels of school attachment were low. School attachment did not moderate the link between peer rejection and academic performance ($\beta = .07, p = .30$), suggesting that the effect of peer rejection on academic performance does not depend on levels of school attachment.

**DISCUSSION**

The current study sought to better understand contextual factors that contribute to academic performance in a sample of Latino youth, a group of individuals at risk for academic difficulties (LeCroy & Krysik, 2008; Mau, 1995). Findings from this study contribute to the literature by examining school attachment as a moderator of contextual factors that contribute to academic performance. Findings suggested that whereas peer rejection was robustly associated with academic performance, regardless of levels of school attachment, the influence of neighborhood violence on academic performance depended on levels of school attachment.

A considerable body of research indicates that neighborhood violence is associated with a host of negative outcomes, including poor academic performance (Bowen & Bowen, 1999; Henrich et al., 2004; Mathews et al., 2009; Milam et al., 2010; Schwartz & Gorman, 2003). The current study extends this literature by suggesting that neighborhood violence is associated with academic performance when school attachment is low. According to the Social Development Model, bonding to social institutions results in adopting the norms of the group and conforming behavior, which also includes academic performance (e.g., Catalano, 1982; Catalano et al., 2004; Catalano & Hawkins, 1996; Hawkins & Weis, 1985). Thus, even when experiencing adverse neighborhood circumstances that may result in posttraumatic stress (Mathews et al., 2009), depression and disruptive behavior (Schwartz & Gorman, 2003), and lower levels of perceived safety and
parental support (Patton et al., 2012), having an investment in and bond to a school that values education may prevent youth from struggling academically.

Consistent with previous research, peer rejection was linked to poor academic performance (Bierman, 2004; Coie, 1990; Hinshaw, 1992; Masten et al., 2005; Fite et al., 2012; Fite et al., 2013). Moreover, school bonding did not affect this relation, suggesting that peer rejection is uniquely and robustly associated with academic difficulties. Peers are likely an important component of school attachment, suggesting that it may be difficult to have strong school attachment when peer rejection is evident. However, school attachment comprises a multitude of social relationships (teachers, coaches, and administrators) and activities in addition to feelings of safety. We also note that our measures of peer rejection and school attachment were statistically unrelated, suggesting that school attachment is not solely based on peer relationships.

Peer rejection may result in poor academic performance due to a failure to bond to conventional institutions (Bierman, 2004). More specifically, experiencing rejection from peers may result in low motivation in addition to a lack of confidence in academic performance (Bierman, 2004; Coie, 1990; Rubin et al., 1998), ultimately resulting in academic difficulties. Future research examining the role of acculturation in the experience of peer rejection and its link to academic difficulties among Latino students would be useful for developing interventions specific to Latino youth.

When interpreting current findings, one needs to consider the study’s limitations. First, the current study is cross-sectional in nature. Longitudinal research examining these associations is needed. Further, the current study focuses on predominantly low-income Latino adolescents attending an urban charter school that was developed to improve academics among Latino youth, which may limit the generalizability of the results. Future research examining associations in various age groups and across racial and ethnic groups is needed.

Further, the current study did not assess heritage or acculturation/enculturation, and findings may be influenced by these factors. Taking into account these cultural factors is an important next step in this line of research to determine the generalizability of current findings to the diverse population of Latino youth residing in the United States. Additionally, examining associations in public versus private school settings would also be useful to establish the generalizability of current findings. The current study focused on adolescent youth, and future research is needed to evaluate if school attachment has a similar effect on younger youth. Finally, academic performance was assessed using two items with which teachers reported on level of academic performance, not actual letter grades. Although these items were related and demonstrated the same pattern of findings as previous research using letter grades, future research using additional assessments, including actual grades and GPA, would be beneficial.

Despite these limitations, findings highlight the potential for school attachment to attenuate the harmful effects of neighborhood violence on adolescents’ academic performance. Catalano and colleagues (2004) have found that changing the contextual school climate through teacher trainings, incorporating problem solving and a social skills curriculum, as well as parent trainings can increase youth’ attachment and commitment to school, which ultimately improves their academic performance and reduces problem behaviors (i.e., substance use, risky sexual behavior, and behavior problems). This is promising research given that it is extremely difficult, and requires larger societal action, to decrease the level of violence in one’s neighborhood. Although improving school attachment may be somewhat difficult, there is some evidence to suggest that there are effective strategies worth pursuing (Catalano et al., 2004).
Findings also provide further evidence of the influence of poor peer relationships on academic performance and suggest the need to target peer rejection, regardless of school attachment level. Peer rejection is a major issue for many youth (Bierman, 2004), and improving social relationships could help to improve academic performance in addition to a number of other adjustment outcomes. There is some evidence to suggest that social skills training can help with particular behavioral issues (Kazdin, 2010; Webster-Stratton, 1990; Webster-Stratton & Reid, 2003). However, it is not yet clear that improving social skills helps to reduce rejection by peers or academic performance. Thus, more research evaluating how to effectively improve peer relationships is needed.

Additionally, future research examining factors (e.g., delinquency, depressive symptoms) that may account for the associations between these contextual risk factors and academic outcomes is warranted. It would also be useful to consider the role of parental school involvement in these associations, as parental involvement in the school environment and their views of academics also influence student academic performance (e.g., Englund, Luckner, Whaley, & Egeland, 2004).

Finally, cultural issues are also in need of further consideration. Public schools report struggling to work with immigrant families due to various language and cultural differences, misunderstandings, and biases, and a lack of training and resources for school personnel (Lawson & Alameda-Lawson, 2012; Turney & Kao, 2009). Further, Latino parents and school administrators do not necessarily agree on what parental engagement or involvement means (Pere Carreón, Drake, & Barton, 2005). Thus, future research is needed to further understand culture-specific associations and ways of intervening and promoting academic success across racially and culturally diverse students.

REFERENCES


Journal of Community Psychology DOI: 10.1002/jcop


