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Friendship Factors and Suicidality: Common and Unique Patterns in Mexican- and European-American Youth

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Abstract

Research suggests a link between friendships and suicidality among U.S. youth but this link has not been confirmed across ethnicities. This study examined the relationship between friendships and suicidality among Mexican- and European-American adolescents. Specifically, the role of friendship problems (i.e., social isolation, poor quality friendships) and problematic friends (i.e., friends who were disconnected from school, delinquent friends) was explored. Participants were 648 community youth. Friends' school disconnection was related to Mexican-American girls' suicidal ideation while friends' delinquency was associated with European-American youth suicidal behavior. Friendship factors were no longer associated with suicidality after controlling for suicidality correlates such as depression. These findings indicate that the relationship between friendships and suicidality varies by gender and ethnicity. They also suggest a dominant role of depression.

Suicidal thoughts and behaviors are a major health problem for youth in the United States (U.S.). According to the national Youth Risk Behavior Surveillance (YRBS) survey, 15% of students ages 14 to 18 report having "seriously considered" suicide in the past year, and 7% report having engaged¹ in suicidal behaviors one or more times in the past year (Centers for Disease Control and Prevention [CDC], 2008). Most studies (CDC, 2008; Locke & Newcomb, 2005; Tortolero & Roberts, 2001; but see Roberts, Roberts, & Xing, 2007, for an exception) found rates of suicidal ideation and/or nonfatal suicidal behavior among Hispanic youth to be higher than among non-Hispanic youth. Within Hispanic youth, rates of suicidality are particularly high among adolescents of Mexican-American descent (Canino & Roberts, 2001).

Rates of suicidal ideation and nonfatal suicidal behavior differ by sex, with girls reporting significantly more of both. According to the YRBS survey, 19% of girls ages 14–18 report having seriously considered suicide, compared to 10% of boys; 9% of girls report nonfatal suicidal behavior, compared to 5% of boys (CDC, 2008). Sex-related differences in

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¹In this article, the terms "suicidal thoughts" and "suicidal ideation" are used to refer to the continuum of suicidal behavior from thoughts of suicide to making a suicidal plan. "Nonfatal suicidal behavior" is used to refer to suicidal acts in which a person survives. "Suicide" refers to death by suicidal behavior. Finally, the word "suicidality" is used to describe both suicidal thoughts and suicidal behaviors across lethality (see Canetto, 1997, for a review of suicide terminology).

suicidality are particularly significant for Hispanic youth, with Hispanic girls reporting more suicidal ideation and nonfatal behavior (21% and 14%, respectively) than European-American, non-Hispanic girls (18% and 8%, respectively), Hispanic boys (11% and 6%, respectively) and European-American, non-Hispanic boys (10%, and 3%, respectively; CDC, 2008).

Much attention has been devoted to the role of psychopathology in adolescent suicidality. Less well explored are the interpersonal contexts of adolescent suicidal behavior, particularly friendship factors. Theory and research indicate that individual well-being depends on interpersonal factors, with the influence of friendships increasing dramatically during adolescence (e.g., DiFilippo & Overholser, 2000; Hartup, 1996; Kidd, Henrich, Brookmeyer, Davidson, King, & Shahar, 2006; Prinstein, 2007; Prinstein, Boergers, & Spirito, 2001; Windle, 1994). Friendships appear to be particularly important for girls (e.g., Bradley, Flannagan, & Fuhrman, 2001; Colarossi, 2001; DiFilippo & Overholser, 2000; Kerr, Preuss, & King, 2006; Kobus & Reyes, 2000; Prinstein, Boergers, Spirito, Little, & Grapentine, 2000; Way, Cowal, Gingold, Pahl, & Bissessar, 2001).

This study examined the relationship between friendship factors and suicidality among girls and boys of Mexican- and European-American descent. The role of both friendship problems (i.e., social isolation and poor quality friendships) as well as problematic friends (i.e., friends who are disconnected from school and delinquent friends) in suicidal ideation and behavior was explored.

Studies of Friendships and Suicidality

Studies of youth friendships and suicidality have focused on social isolation, with mixed findings. Some found an association between social isolation and suicidality (e.g., De Man, Leduc, & Labrche-Gauthier, 1992; Hacker, Suglia, Fried, Rappaport, & Cabral, 2006; Prinstein et al., 2000) while others did not (e.g., Queralt, 1993; Shagle & Barber, 1995). According to Prinstein (2003), using social isolation as a measure of friendship problems erroneously assumes that any friendship is better than none. Several studies have shown that having unsupportive friends may be worse for adolescent well-being than having no friends at all (e.g., Grolu, Van Lieshout, Haselager, & Scholte, 2007; Prinstein et al., 2001). To understand the role of friendships in suicidality it is therefore important to study the quality of friendships, not just social isolation. Assessing the characteristics of friends is also crucial to make sense of adolescent behavior. One of the strongest predictors of adolescents' dysfunctional behavior is friends' engagement in such behaviors (Prinstein et al., 2001; Tani, Chavez, & Deffenbacher, 2001). For example, adolescents whose friends are disconnected from school or engage in delinquent behavior – both being behaviors associated with suicidality – tend to experience behavioral problems themselves (Chavez, Oetting, & Swaim, 1994; Dishion & Owen, 2002; Kaplan, Peck, & Kaplan, 1997).

Past studies suggest that friendship factors matter in suicidality though their influence varies depending on the suicidality type (i.e., suicidal ideation versus nonfatal suicidal behavior). In a study of European-American (98%) high school students, four friendship quality difficulties (insufficient reciprocal support, overt hostility, covert hostility, and inadequate mutual self-disclosure) were associated with nonfatal suicidal behavior (Windle, 1994). Similarly, a hospital-based study of inpatient, predominantly (73%) European-American suicidal adolescents found several peer factors (i.e., lack of friendship support, low perceived peer acceptance, high perceived peer rejection, and affiliation with deviant peers) to be associated with suicidal ideation, either directly or indirectly (Prinstein et al., 2000). Using a sample of mostly (91%) European-American youth, Johnson and colleagues (2002) found that interpersonal difficulties (e.g., social isolation and poor quality friendship)

predicted nonfatal suicidal behavior. Based on data from the National Longitudinal Study of Adolescent Health, Haynie, South and Bose (2006) also noted that social isolation and friends' delinquency (skipping school, drinking alcohol, and smoking cigarettes) were associated with girls' nonfatal suicidal behavior. A study of an ethnically diverse (37% Hispanic; 35% Black; 22% White) sample of urban, sexual minority youth recruited via sexual minority organizations found that poor social support and negative relationships (e.g., being mistreated, ignored, or manipulated by others) were related to nonfatal suicidal behavior (Rosario, Schrimshaw, & Hunter, 2005). Finally, in their sample of (59% Hispanic; 22% European American) high school adolescents, Prinstein and colleagues (2001) observed that adolescents' suicidal ideation and behavior, substance abuse and violence were related to their friends' suicidal behavior, substance use, and violence, respectively.

The most comprehensive study of youth friendships and suicidality is Bearman and Moody's (2004). Using a national sample of 13,465 adolescents in grades 7 through 12, these investigators explored the relationship between youth suicidality and several friendship domains, including social isolation, transitivity of friendships (extent to which adolescents' friends are friends with each other) and density of social networks (tightness of school community), using a longitudinal design. Bearman and Moody also modeled friendship influences separately for girls and boys. They found that social isolation and intransitive friendships were associated with suicidal ideation in girls but not boys. Additionally, dense school-based social networks decreased the risk of suicidal ideation for girls, but not boys. Finally, in girls, the relationship between friendship factors (e.g., social isolation and intransitive friendships) and suicidality was stronger than the relationship between factors like depression and suicidality, suggesting that friendship problems may be particularly important in girls' suicidality (Bearman & Moody, 2004).

Research on youth friendships and suicidality has gone through important theoretical and methodological development, including consideration of multiple friendship factors as well as separate examination of female and male patterns. There are, however, limitations in the research so far. Past studies have mostly focused on European-American adolescents. Of the studies that included ethnic minority respondents, most did not examine trends by ethnicity. Also, past studies did not consistently examine gender patterns of friendship and suicidality. This is despite the fact that suicidality as well as friendship patterns vary for girls and boys, and by ethnicity.

An ethnic group of particular interest with regard to youth suicidal behavior and friendships is Hispanics. Hispanic youth have higher rates of suicidal ideation and nonfatal suicidal behavior than non-Hispanic youth (CDC, 2008; Locke & Newcomb, 2005; Tortolero & Roberts, 2001). Additionally Hispanic adolescents usually report stronger friendship bonds than non-Hispanic adolescents, especially girls, those who are older, and those who are less acculturated. For example, in two recent studies, urban Hispanic adolescents (age 15 on average) from educationally and economically disadvantaged backgrounds rated their friendships as more affectionate, reliable, and intimate, and their friendship quality higher than similar-background African-American and Asian-American adolescents (Way et al., 2001; Way & Greene, 2006). By contrast, another study found that acculturated, working and middle class Mexican-American youth (age 10 on average) did not differ from European-American peers with regard to various friendship characteristics (perceived friendship support, common activities, emotional attachment, and conflict) (Bradley, Flannagan, & Fuhrman, 2001). At the same time, the latter study noted greater differences between girls' and boys' emotional attachment in Mexican-American adolescents as compared to European-American adolescents, with girls in both groups reporting more attachment. Findings on the relationship between friendship factors and suicidality for Hispanic youth are mixed, however. Some studies found a relationship between friendship

factors and Hispanic youth suicidality (i.e., Prinstein et al., 2001; Rosario et al., 2005) whereas others (Razin, O'Dowd, Nathan, Rodriguez, Goldfield, Martin, et al., 1991; Turner, Kaplan, Zayas, & Ross, 2002) did not.

An additional limitation of extant research is its reliance on school and clinical samples. Both of these samples are selective, and may be particularly likely to miss Hispanic youth. For example, school samples exclude dropouts. Only 53% of Hispanic youth graduate from high school, compared to 75% of non-Hispanic European-American students (Swanson, 2001), with Mexican-American youth having the highest dropout rate of any ethnic group, including other Hispanics (National Center for Education Statistics, 2003).

The Present Study

This study explored the relationship between friendship factors and suicidality in a community sample of girls and boys of Mexican- and European-American descent. To ensure a diverse sample with regard to background, adversities, and friendship situations, this study recruited youth in school, youth at risk of dropping out as well as youth who had dropped out. Based on past studies (e.g., Beautrais, 2003; Prinstein et al., 2001) the friendship factors examined in this study were friendship problems (i.e., social isolation and poor quality friendships) as well as problematic friends (i.e., having friends who were disconnected to school and having friends engaged in delinquent behaviors). We also measured known suicidality risk factors (i.e., depression, drug/alcohol use, anxiety, anger, delinquency, physical abuse, sexual abuse) as well as known suicidality protective factors (including self-esteem and family support) (Bearman & Moody, 2004; Beautrais, 2003; Locke & Newcomb, 2005). Ethnic identity was examined as well, as related to past findings (e.g., Oetting & Beauvais, 1990; Umaña-Taylor & Updegraff, 2007; however see O'Donnell, O'Donnell, Wardlaw, & Stueve, 2004, for an exception) that a strong ethnic identity protects against the psychosocial precursors of suicidality. Based on theory and past research (e.g., Bearman & Moody, 2004), patterns of suicidality risk were analyzed separately for girls and boys.

Based on previous findings on the role of friendships in European-American adolescent suicidality (e.g., Johnson, Cohen, Gould, Kasen, Brown, & Brook, 2002; Prinstein et al., 2000; Windle, 1994) we expected friendship problems (i.e., poor quality friendship) and problematic friends (i.e., friends' school disconnectedness and friends' delinquency) to be associated with suicidal ideation and nonfatal suicidal behavior among European-American girls and boys. Theory and research on Hispanic adolescents are inconsistent with regard to the role of friendships in suicidality. For this reason, in this study it was hypothesized that having problematic friends would be the only friendship factor associated with suicidal ideation and nonfatal suicidal behavior for Mexican-American adolescents. Finally, it was hypothesized that having a strong ethnic minority identity would be associated with lower reports of suicidal ideation and nonfatal suicidal behavior, as consistent with some past research (e.g., Oetting & Beauvais, 1990; Umaña-Taylor & Updegraff, 2007).

Method

Participants

Six hundred forty-eight youth (53% female) participated in the study. Three hundred thirtyeight (52%) were of Mexican-American descent² and 310 (48%) were of European-American descent. They ranged in age from 14 to 20 years ($M = 16.58$, $SD = 1.12$). Thirty-eight percent of participants were dropouts, 31% at-risk of dropping out, and 31% in good academic standing.

Measures

Friendship—Friendship factors were assessed via measures developed by Oetting and collaborators based on peer cluster theory (Oetting & Beauvais, 1986) and primary socialization theory (Oetting & Donnermeyer, 1998). To assess social isolation, the item “I do not have a group of friends that I spend time with” was used. Adolescents who endorsed this item did not complete the other friendship questions.

The remaining friendship questions assessed friendship problems, that is friendship quality problems (six items), as well as problematic friends, that is friends’ school disconnection (seven items) and friends’ delinquency (nine items) (see Table 1 for a complete list of friendship factors questions). A total Friendship Quality Problems score was calculated by summing the responses. Higher scores indicate more friendship quality problems. In this sample, reliability of the Friendship Quality Problems scale was high ($\alpha = .89$). A total Friends’ School Disconnectedness score was also calculated by summing responses. Higher scores indicate more school disconnectedness. Within this sample, reliability of the Friends’ School Disconnectedness scale was high ($\alpha = .86$). A total Friends’ Delinquency score was calculated by summing responses. Higher scores indicate more delinquent behaviors among the respondent’s friends. Within this sample, the reliability of the Friends’ Delinquency scale was high ($\alpha = .87$).

A principle components analysis was conducted on the items assessing friendship quality problems and friends’ school disconnection. Items assessing friends’ delinquency were not included because of the dichotomous nature of the questions. Promax rotation was selected and all factors with an Eigenvalue greater than one were retained. Based on this criterion, two factors were extracted. These two factors accounted for 60.30% of the variance among the items. Factor one (Friendship Quality Problems) accounted for 42.72% of variance (Eigenvalue = 5.55) and factor two (Friends’ School Disconnectedness) accounted for 17.58% of variance (Eigenvalue = 2.29). The correlation between the two factors was .42. Correlations between the three subscales ranged from .10 to .49, suggesting that each of the subscales measured a distinct, but related, facet of friendship. The pattern matrix with scale items and associated factor loadings is in Table 1.

Suicidality—Suicidal ideation and nonfatal suicidal behavior were assessed via the following questions: “In the last 12 months, have you thought about suicide?” and “In the last 12 months, have you attempted suicide?” with responses graded on a four-point Semantic Differential scale (1 - a lot, 2 - some, 3 - not much, 4 - not at all) (Oetting & Beauvais, 1984). This study’s suicidality questions are similar to suicidality questions in the Centers for Disease Control Youth Risk Behavior Surveillance Survey (CDC, 2008). Responses to questions about suicidal ideation and nonfatal behavior were dichotomized to increase statistical power, with participants who endorsed any suicidal ideation or nonfatal suicidal behavior being classified as suicidal.

Additional Suicidality Risk and Protective Factor Subscales—Risk factors previously associated with suicidal ideation and nonfatal suicidal behavior were also measured. These risk factors included alcohol and substance abuse, depression, anxiety, anger, delinquency, physical abuse and sexual abuse. Alcohol and drug use were assessed using the Clinical Drug Assessment Scale (CDAS) from the American Drug and Alcohol Survey (ADAS; Oetting, Beauvais, & Edwards, 1985). Higher scores reflect less drug or

²Ethnicity-scholars have recommended identifying Hispanic subgroups rather than treating Hispanics as if they were all the same (Duarte-Velez & Bernal, 2007). The vast majority of Hispanics living in the Southwestern United States communities we sampled are of Mexican descent (Gibson & Jung, 2002; U.S. Census Bureau, 2002). Therefore participants in this study are referred to as Mexican-American rather than “Hispanic.”

alcohol use. Established reliabilities for the CDAS are .74 to .92 for Mexican-American adolescents, and .78 to .96 for European-American adolescents (Oetting & Beauvais, 1990). Depression, anxiety, anger, delinquency, physical abuse, and sexual abuse were measured via The Prevention Planning Survey (PPS) (Oetting & Beauvais, 1984). Higher scores reflect more depression, anxiety, anger, delinquency, physical abuse, and sexual abuse, respectively. A complete list of PPS risk factor subscales, scale items, and established scale reliabilities can be found in Appendix A.

Suicidality Known Protective Factors—Protective factors previously found to correlate with suicidal ideation and nonfatal suicidal behavior were measured in this study. These protective factors included self-esteem, family support, and ethnic identity. The PPS subscales were used to measure trait self-esteem and family support (Oetting & Beauvais, 1984). Mexican-American and European-American ethnic identities were assessed using the Orthogonal Cultural Identification Scale (Oetting & Beauvais, 1990–1991). A complete list of protective factor subscales, scale items, and established scale reliabilities can be found in Appendix A.

Procedure

The data presented here were drawn from a larger study conducted in New Mexico and Colorado communities (populations 90,000 and 350,000 respectively). The original study targeted high-school age youth, 14–20 years of age. Participation in the study was voluntary, confidential, and included a small compensation. The questionnaires, available in English and Spanish, were administered by bilingual interviewers. Information about sex and age were collected from the participants, whereas information about ethnicity, grades, and academic status was obtained from school records. About three percent of the surveys were removed from analysis because they were incomplete, randomly marked, or considered unreliable due to endorsement of a fake item.

Participants included dropouts, youth at risk of dropping out, and adolescents in good academic standing. Dropouts were defined as youth who were absent from school for over 30 days and who had not enrolled or contacted a school elsewhere. Adolescents at-risk of dropping out were defined by the school as students in poor academic standing based on grade point average (GPA). Students in good academic standing were also defined as such by the school, based on GPA. The three academic groups (dropout, at-risk, good standing) were matched based on sex, age, and most recent grade in school. The dropout group was also matched to the at-risk group using the most recent GPA for the purpose of combining them into one “educationally at-risk” group in the statistical analyses. Adolescents were randomly sampled within each identified group. Cases with missing values on continuous predictors were imputed using the expectation maximization algorithm through SPSS 15.0 Missing Value Analysis.

Results

Rates of Suicidality

Of the 648 youth who answered questions about suicidal ideation, 205 (31.6%) reported thinking about suicide in the past year. Of the 643 adolescents who answered questions about suicidal behavior, 74 (11.5%) reported engaging in nonfatal suicidal behavior in the past year. Girls were significantly more likely to report suicidal ideation ($\chi^2(1, n = 648) = 13.23, p < .01$) and behavior ($\chi^2(1, n = 643) = 5.84, p < .05$) than boys, with Mexican-American girls reporting the highest rates of ideation and behavior. Within European-American adolescents, girls were significantly more likely to report suicidal ideation than boys ($\chi^2(1, n = 310) = 6.39; p < .05$) but equally as likely as boys to report suicidal

behavior ($\chi^2 (1, n = 307) = 1.01; p > .05$). There was no difference in suicidality by educational status. Educationally at-risk adolescents were equally as likely to report suicidal ideation and behavior as those in good academic standing ($\chi^2 (2, n = 648) = 2.88, p > .05$; $\Phi = .07$ and $\chi^2 (2, n = 643) = 4.35, p > .05$; $\Phi = .08$, respectively). Compared with European-American adolescents, Mexican-American adolescents were significantly more likely to report nonfatal suicidal behavior ($\chi^2 (1, n = 643) = 9.31, p < .01$; $\Phi = .12$) but equally as likely to report suicidal ideation ($\chi^2 (1, n = 648) = 0.74, p > .05$; $\Phi = .03$). Descriptive information on the prevalence of suicidal ideation and nonfatal suicidal behavior, friendship problems, and suicidality risk and protective factors can be found in Table 2.

Friendship Factors and Suicidality: Log Regression

The role of friendship problems (i.e., friendship quality problems) and problematic friends (i.e., friends' school disconnectedness and friends' delinquency) in suicidality was examined using logistic regression. All variables were included in the model. For Mexican-American youth, the friendship model was significant for girls' suicidal ideation ($\chi^2 (3, n = 169) = 17.46, p < .01$) and accounted for 13.3% of the variance. Friends' school disconnectedness was the only significant predictor within the model (OR, 1.14; 95% C.I. [1.00 – 1.30], $p < .05$). A one unit increase in school disconnectedness increased the odds of Mexican-American girls' suicidal ideation by 13.4%, or by a factor of 1.14. The friendship model was not significantly associated with Mexican-American boys' suicidal ideation, nonfatal suicidal behavior in Mexican-American girls, or nonfatal suicidal behavior in Mexican-American boys.

For European-American youth, the friendship model was significant for girls' suicidal behavior ($\chi^2 (3, n = 147) = 8.74, p < .05$) and accounted for 12.8% of the variance. The friendship model was significant for boys' suicidal behavior ($\chi^2 (3, n = 140) = 12.64, p < .01$) and accounted for 22.7% of the variance. Friends' delinquency was the only significant individual predictor within the model. A one unit increase in friends' delinquency (more delinquent friends) increased the odds of suicidal behavior in European-American girls by 28% (by a factor of 1.32) and in boys by 48% (by a factor of 1.61). The friendship model was not significantly associated with suicidal ideation in European-American girls or boys. Odds ratios and confidence intervals are presented in Table 3.

Other Known Risk and Protective Factors in Suicidality: Log Regression

The relationship between suicidality and known suicidality risk and protective factors (i.e., substance use, depression, anxiety, anger, delinquency, family support, self-esteem and ethnic identity) was also examined. For Mexican-American youth, physical abuse (OR, 1.44; 95% C.I. [1.07 – 1.93], $p < .05$), depression (OR, 1.22; 95% C.I. [1.09 – 1.37], $p < .01$), lack of family support (OR, 0.60; 95% C.I. [0.37 – 0.97], $p < .05$), and drug/alcohol use (OR, 0.95; 95% C.I. [0.90 – 0.99], $p < .05$) were significantly associated with girls' suicidal ideation. Lack of family support was also significantly associated with nonfatal suicidal behavior for girls (OR, 0.62; 95% C.I. [0.40 – 0.97], $p < .05$). Physical abuse and drug/alcohol use were significantly associated with suicidal ideation for Mexican-American boys (OR, 1.35; 95% C.I. [1.04 – 1.75], $p < .05$ and OR, 0.95; 95% C.I. [0.91 – 0.99], $p < .05$, respectively); anger and low self esteem were significantly associated with nonfatal suicidal behavior in boys (OR, 1.29; 95% C.I. [1.02 – 1.64], $p < .05$ and OR, 0.88; 95% C.I. [0.79 – 0.99], $p < .05$, respectively). For European-American youth, depression (OR, 1.21; 95% C.I. [1.07 – 1.37], $p < .01$), delinquency (OR, 1.27; 95% C.I. [1.02 – 1.57], $p < .05$), and substance use (OR, 0.94; 95% C.I. [0.89 – 1.00], $p = .05$) were significantly associated with suicidal ideation in girls. Depression was significantly associated with suicidal ideation in boys (OR, 1.13; 95% C.I. [1.02 – 1.26], $p < .05$). History of sexual abuse (OR, 1.41; 95%

C.I. [1.03 – 1.94], $p < .05$), anger (OR, 1.29; 95% C.I. [1.04 – 1.61], $p < .05$), and family support (OR, 0.52; 95% C.I. [0.28 – 0.95], $p < .05$) were significantly associated with nonfatal suicidal behavior in girls. None of the risk and protective factors were significantly associated with European-American boys' nonfatal suicidal behavior. Friendship factors were no longer associated with suicidality in Mexican-American or European-American youth after controlling for these additional correlates. Ethnic identity was also not associated with suicidality for Mexican-American or European-American youth. Odds ratios and confidence intervals are presented in Table 4.

Discussion

Rates of suicidal ideation and nonfatal suicidal behavior in this sample of Mexican-American and European-American youth were high (32% and 11.5%, respectively), a confirmation of past findings (Kann, Warren, Harris, Collis, Williams, Ross, et al., 1996). Girls reported significantly higher rates of suicidal ideation and behavior than boys, consistent with past findings (e.g., CDC, 2008) and with dominant gender norms. Among European-Americans, reporting suicidal thoughts and “attempting suicide” are considered weak, feminine behaviors. By contrast, suicide is perceived as strong, masculine behavior (Canetto, 1997). This study's findings suggest that Mexican-American gender socialization supports norms of gender and suicidal behavior similar to those held by European-Americans.

Different friendship factors were related to different kinds of suicidality, with variability by adolescents' sex and ethnicity. Among Mexican-Americans, friends' school disconnectedness was associated with suicidal ideation in girls. By contrast, among European-Americans, friends' delinquency emerged as a risk factor for nonfatal suicidal behavior in both boys and girls. Past studies suggest that girls are more likely than boys to have friends who are connected to school. This is particularly true for Hispanic youth (e.g., Lupart, Cannon, & Telfer, 2004; Supple, Ghazarian, Frabutt, Plunkett, & Sands, 2006). Having friends who are disconnected from school may be uniquely upsetting for Mexican-American girls, a stress which is perhaps expressed as suicidality. Similarly, friends' delinquency may be more deviant for European-American than for Mexican-American youth (Chavez et al., 1994). For example, in the current study, European-Americans described their friends as significantly less delinquent than Mexican-Americans. Having friends engaged in delinquent behavior may therefore be particularly stressful for European-American adolescents, with that stress perhaps contributing to their suicidality.

The most novel finding of this study is that the role of friendship factors in suicidality varied by ethnicity and by type of suicidality. Specifically, in this study, friends' school disconnectedness was associated with Mexican-American girls' suicidal thinking. By contrast, having delinquent friends was relevant to nonfatal suicidal behavior for European-American girls and boys. The findings that the relationship of friendship factors and suicidality differed by suicidality type, for girls as compared with boys, replicate those of other studies (e.g., Bearman & Moody, 2004; Kerr et al., 2006).

Contrary to some evidence (e.g., Oetting & Beauvais, 1990; Umaña-Taylor & Updegraff, 2007) and our expectations, but consistent with the findings of a study of Latino and African-American adolescents (O'Donnell et al., 2004), ethnic identity in this study did not protect against suicidality. Other studies also found that a positive ethnic identity did not protect against depression (Céspedes & Huey, 2008; Oyserman, Kimmelmeier, Fryberg, Brosh, & Hart-Johnson, 2003).

Overall, in this study friendship factors did not emerge as a dominant influence in youth suicidality. They were not significantly associated with Mexican-American girls' suicidal behavior, Mexican-American boys' suicidal ideation or behavior, or with European-American girls' and boys' suicidal ideation. Furthermore, controlling for factors such as depression eliminated the association between having problematic friends and suicidality. Finally, the association between suicidality and friendship factors was weaker than the association of suicidality with other factors (e.g., depression). It is possible these other factors mediate the relationship between friendship factors and suicidality (e.g., Prinstein et al., 2000).

Interpretations of this study's findings should be framed within the specificity of its design. A key consideration is that we used an existing data set. The advantage is that we had access to a unique and diverse sample of community adolescents. The disadvantage is that we did not have all or the best measures we might have included if we had designed the study to suit our research questions. For example, we had information on suicidality in the previous 12 months. However, only one question assessed suicidal ideation and nonfatal suicidal behavior, respectively. In response, we used an inclusive definition of suicidality, with any admission of suicidal ideation or behavior being recorded as suicidality. Furthermore, in this study youth who endorsed the statement "I do not have a group of friends that I spend time with" were asked to not respond to further questions about friendship factors. Adolescents who had a single friend rather than a group of friends might have been misclassified in the social isolation category. Another limitation of this study is its cross-sectional design. This design does not permit establishing the chronological sequence of suicidal behavior and its correlates. Furthermore, the present study did not test mediating models. It is unknown whether friendship factors preceded or followed suicidality problems, and whether other variables, such as depression, mediated the relationship between friendship and suicidality.

This study's findings suggest that friendship factors may not be dominant in adolescent suicidality – especially in Mexican-American youth suicidality, as argued by Zayas and Pilat (2008). Mexican-American boys are the group for whom friendships may matter the least with regard to suicidality. In this study, Mexican-American boys had more friendships problems and more problematic friends than Mexican-American girls and European-American girls and boys but less suicidal ideation than girls of either ethnic group. A contribution of this study is that it hints at what may be intersecting ethnic- and gender-risk and protective factors in suicidality. If confirmed, this study's findings have implications for the design of gender and culturally-grounded models of suicide prevention. It will however be important for future studies to use longitudinal data to explore the directionality of associations between friendship factors and suicidality as well as the potentially mediating role of depression.

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Table 1

Friendship Scale

Factor	Reliability	Items	Component*	
			1	2
Social Isolation ^a	n/a	I do not have a group of friends that I spend time with.	n/a	n/a
Friendship Quality Problems ^b	$\alpha = .891$	Do your friends care about you?	.803	.035
		Do you care about your friends?	.762	.085
		Do your friends really try to help you?	.781	.019
		Can you count on your friends when things go wrong?	.804	-.023
		Do you have friends you can share joys and sorrows with?	.874	-.089
		Do you feel you can talk about problems with your friends?	.856	-.045
Friends' School Disconnectedness	$\alpha = .859$	How many of your friends are attending high school? ^c	-.138	.599
		What kind of students are your friends? ^d	-.005	.735
		What kind of grades do your friends get? ^d	.025	.738
		Did your friends like school? ^b	.032	.808
		Did your friends like school is fun? ^b	.069	.739
		Did your friends think school is fun? ^b	-.034	.812
		Did your friends like their teachers? ^b	.045	.722
Friends' Delinquency ^e	n/a	Did teachers like your friends? ^b		
		Have any of your close friends ever gotten a traffic ticket?	n/a	n/a
		Have any of your close friends ever had their driver's license taken away?	n/a	n/a
		Have any of your close friends ever stolen a car?	n/a	n/a
		Have any of your close friends ever dropped out of school?	n/a	n/a
		Have any of your close friends ever been kicked out of school?	n/a	n/a
		Have any of your close friends ever stolen anything fairly expensive?	n/a	n/a
		Have any of your close friends ever been arrested?	n/a	n/a
		Have any of your close friends ever been placed on probation for a crime.	n/a	n/a
		Have any of your close friends ever been sent to jail?		

* Extraction Method: Principal Component Analysis with Promax Rotation

^a Check/No Check

^b Semantic differential: 1 – a lot, 2 – some, 3 – not much, 4 – not at all

^c Semantic differential: 1 – all of them, 2 – most of them, 3 – few of them, 4 – none of them

^d Semantic differential: 1 – very good, 2 – good, 3 – not too good, 4 – poor

^e Yes/No

Note: All scales are summative except social isolation

Table 2

Prevalence of Suicidality, Friendship Factors, and Known Suicidality Risk and Protective Factors

	Mexican-American (MA) Adolescents				European-American (EA) Adolescents			
	Girls (N = 187)		Boys (N = 151)		Girls (N = 156)		Boys (N = 154)	
	n	% of Girls	n	% of Boys	n	% of Girls	n	% of Boys
Suicidality								
Suicidal Ideation	73	39.04	39	25.83*	57	36.54	36	23.38*
Suicidal Behavior	35	18.72	16	10.60*	14	8.97	9	5.84
Academic Status								
Educationally At-Risk	126	67.38	106	70.20	106	67.95	105	68.18
Good Academic Standing	61	32.62	45	29.80	50	32.05	49	31.82
Friendship Factors								
Social Isolation	24	12.83	24	15.90	13	8.33	14	9.09
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Poor Quality Friendship	9.22	3.29	11.49	3.67**	8.24	2.62	9.96	3.24**
Friends' School Disconnectedness	16.77	3.16	17.53	3.67*	15.47	3.33	16.35	3.45*
Friends' Delinquency	13.98	2.95	14.09	2.82	12.82	2.78	13.75	2.86**
Suicidality Risk Factors								
Drug/Alcohol Use ^a	22.43	10.83	21.43	11.25	25.35	9.25	22.86	10.68*
Anxiety	19.08	3.94	17.50	4.05**	17.99	3.91	16.67	4.06*
Anger	13.96	4.41	13.34	4.10	12.44	4.20	12.75	4.47
Depression	13.49	5.36	11.80	4.80**	13.88	5.49	12.82	5.16
Delinquency	9.03	2.85	10.11	3.19**	8.44	2.70	9.62	2.67**
Physical Abuse	6.89	1.57	6.77	1.79	6.96	1.91	6.76	1.62
Sexual Abuse	3.83	1.68	3.15	0.80**	3.90	1.85	3.16	0.79**
Suicidality Protective Factors								
Self-Esteem	34.84	4.72	34.83	4.95	35.87	4.26	35.98	4.78
Family Support	7.46	0.92	7.59	0.89	7.54	0.94	7.49	0.86

	Mexican-American (MA) Adolescents				European-American (EA) Adolescents			
	Girls (N = 187)		Boys (N = 151)		Girls (N = 156)		Boys (N = 154)	
	n	% of Girls	n	% of Boys	n	% of Girls	n	% of Boys
MA ethnic identity ^b	10.38	4.36	10.89	4.53				
EA ethnic identity ^c					11.49	5.28	12.10	4.89

^a Higher score reflects less drug/alcohol use

^b Higher scores reflect less adherence to Mexican-American ethnic identity

^c Higher scores reflect less adherence to European-American ethnic identity

* $p < .05$,

** $p < .01$ (sex differences within ethnicity)

Table 3

Estimated Odds Ratios (95% CI's) for Friendship Factors

<i>Suicidal Ideation</i>				
	<u>Mexican-American Adolescents</u>		<u>European-American Adolescents</u>	
	Girls (N = 169)	Boys (N = 137)	Girls (N = 147)	Boys (N = 141)
Friendship Model	$\chi^2 (3) = 17.46^{**}$	$\chi^2 (3) = 0.72$	$\chi^2 (3) = 3.83$	$\chi^2 (3) = 3.97$
	Pseudo R ² = .13	Pseudo R ² = .01	Pseudo R ² = .04	Pseudo R ² = .04
Individual Predictors				
Friends' Delinquency	1.09 (0.96 – 1.24)	1.07 (0.91 – 1.25)	1.02 (0.88 – 1.18)	1.10 (0.93 – 1.30)
Poor Friendship Quality	1.09 (0.98 – 1.22)	1.04 (0.90 – 1.19)	1.10 (0.96 – 1.26)	1.08 (0.95 – 1.23)
Friends' School Disconnectedness	1.14 (1.00 – 1.30)*	0.96 (0.82 – 1.12)	1.04 (0.92 – 1.18)	1.01 (0.87 – 1.17)
<i>Nonfatal Suicidal Behavior</i>				
	<u>Mexican-American Adolescents</u>		<u>European-American Adolescents</u>	
Predictor	Girls (N = 167)	Boys (N = 137)	Girls (N = 147)	Boys (N = 140)
Friendship Model	$\chi^2 (3) = 1.20$	$\chi^2 (3) = 1.08$	$\chi^2 (3) = 8.74^*$	$\chi^2 (3) = 12.64^{**}$
	Pseudo R ² = .01	Pseudo R ² = .02	Pseudo R ² = .13	Pseudo R ² = .23
Individual Predictors				
Friends' Delinquency	1.04 (0.89 – 1.21)	1.08 (0.87 – 1.36)	1.32 (1.02 – 1.71)*	1.61 (1.04 – 2.49)*
Poor Friendship Quality	0.97 (0.85 – 1.10)	1.10 (0.90 – 1.33)	1.13 (0.93 – 1.39)	0.93 (0.73 – 1.20)
Friends' School Disconnectedness	1.05 (0.90 – 1.22)	0.91 (0.73 – 1.14)	0.98 (0.79 – 1.20)	1.18 (0.93 – 1.50)

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

Table 4

Estimated Odds Ratios (95% CI's) for Known Suicidality Risk and Protective Factors

<i>Suicidal Ideation</i>				
	<u>Mexican-American (MA) adolescents</u>		<u>European-American (EA) adolescents</u>	
	Girls (N = 187)	Boys (N = 151)	Girls (N = 156)	Boys (N = 154)
Risk Factors				
Drug/Alcohol Use ^a	0.95 (0.90–0.99) *	0.95 (0.91–0.99) *	0.94 (0.89–1.00) +	0.97 (0.93–1.01)
Depression	1.22 (1.09–1.37) **	1.11 (0.99–1.24) +	1.21 (1.07–1.37) **	1.13 (1.02–1.26) *
Physical Abuse	1.44 (1.07–1.93) *	1.35 (1.04–1.75) *	0.97 (0.73–1.27)	0.97 (0.75–1.26)
Anger	1.09 (0.96–1.24)	1.08 (0.93–1.26)	1.07 (0.93–1.24)	1.13 (0.99–1.29) +
Delinquency	1.02 (0.85–1.21)	0.84 (0.68–1.02) +	1.27 (1.02–1.57) *	0.87 (0.71–1.07)
Sexual Abuse	0.94 (0.71–1.24)	0.93 (0.46–1.90)	1.06 (0.80–1.34)	0.78 (0.42–1.45)
Anxiety	0.97 (0.86–1.10)	1.07 (0.93–1.22)	1.13 (0.98–1.31)	1.01 (0.88–1.16)
Protective Factors				
Family Support	0.60 (0.37–0.97) *	0.97 (0.61–1.54)	0.61 (0.35–1.06) +	1.01 (0.61–1.70)
Self-Esteem	1.04 (0.94–1.15)	0.96 (0.88–1.05)	0.94 (0.83–1.07)	0.96 (0.87–1.05)
MA ethnic identity ^b	1.05 (0.96–1.15)	1.01 (0.92–1.11)		
EA ethnic identity ^c			1.08 (0.98–1.19)	1.04 (0.95–1.14)
<i>Nonfatal Suicidal Behavior</i>				
	<u>Mexican-American Adolescents</u>		<u>European-American Adolescents</u>	
Predictor	Girls (N = 185)	Boys (N = 151)	Girls (N = 156)	Boys (N = 151)
Risk Factors				
Drug/Alcohol Use ^a	0.98 (0.94–1.03)	0.95 (0.90–1.00) +	0.98 (0.92–1.05)	0.96 (0.90–1.03)
Depression	1.09 (0.97–1.24)	1.11 (0.95–1.29)	1.10 (0.92–1.32)	1.11 (0.95–1.30)
Physical Abuse	1.09 (0.84–1.42)	1.13 (0.82–1.56)	0.77 (0.49–1.21)	0.79 (0.46–1.35)
Anger	1.06 (0.92–1.22)	1.29 (1.02–1.64) *	1.29 (1.04–1.61) *	1.09 (0.87–1.35)
Delinquency	1.10 (0.90–1.34)	0.80 (0.59–1.10)	0.91 (0.68–1.22)	1.02 (0.73–1.42)
Sexual Abuse	1.14 (0.89–1.47)	1.32 (0.60–2.89)	1.41 (1.03–1.94) *	0.98 (0.39–2.50)
Anxiety	1.02 (0.87–1.19)	1.02 (0.84–1.25)	0.80 (0.64–1.01) +	1.05 (0.83–1.34)
Protective Factors				
Family Support	0.62 (0.40–0.97) *	1.85 (0.75–4.58)	0.52 (0.28–0.95) *	0.67 (0.28–1.59)
Self-Esteem	0.99 (0.88–1.11)	0.88 (0.79–0.99) *	1.03 (0.84–1.27)	0.94 (0.81–1.09)
MA ethnic identity ^b	0.94 (0.85–1.05)	0.97 (0.85–1.12)		
EA ethnic identity ^c			1.05 (0.92–1.21)	0.97 (0.82–1.15)

^aHigher score reflects less drug/alcohol use^bHigher scores reflect less adherence to Mexican-American ethnic identity^cHigher scores reflect less adherence to European-American ethnic identity**
p < .01,

*
 $p < .05$,

+
 $p < .10$

Appendix A

Additional Scales

Risk Factors	Items	
Depression ^a ($\alpha = .92-.94$)	I am unhappy I am lonesome I am depressed I am lonely	I feel bad I feel sad I feel low
Anxiety ^a ($\alpha = .63-.64$)	I worry about things I am nervous I am anxious I get tense and jumpy	Do you worry about saying the wrong thing? Do you worry about someone dying in your family? Do you worry about doing something wrong? Do you worry about people telling lies about you?
Anger ^a ($\alpha = .84-.89$)	I am quick tempered I get mad	I get angry I feel like hitting someone
Delinquency ^a ($\alpha = .82-.87$)	I steal things I cheat in school I do bad things	I do things my teachers don't want me to I lie to people
Physical Abuse ^{b c}	Has someone injured you with a weapon? Has someone threatened you with a weapon, but not actually injured you? Has someone injured you on purpose without using a weapon? Has an unarmed person threatened you with injury, but not injured you? Has one of your parents ever hit or threatened you? Has one of your parents ever hurt you so you needed medical treatment?	Has another relative ever hit or threatened you? Has another relative ever hurt you enough so you needed medical treatment? Has your boyfriend/girlfriend/spouse hit or threatened you? Has your boyfriend/girlfriend/spouse hurt you enough so you needed medical treatment? Has a teacher ever hit or threatened you? Has a teacher ever hurt you enough so you needed medical treatment?
Sexual Abuse ^{b c}	Has anyone ever made you have sex against your will? Has anyone ever touched you sexually against your will?	Has anyone ever made you touch them sexually against your will?
Protective Factors	Items	
Self Esteem ^a ($\alpha = .80-.89$)	I am proud of myself I am good looking I like myself I am lucky I am good at games I am smart	I am able to do things well Other people my age ask me to do things with them Other people my age like to be with me People like me Other people my age like me
Family Support ^a ($\alpha = .77-.89$)	Does your family care about you? Does your family care what you do?	Are you close to your family? How much do you care about your family?
Ethnic Identity ^a ($\alpha = .80-.88$)	Some families have special activities or traditions that take place every year at particular times (such as holiday parties, special meals, religious activities, trips or visits). How many of these special activities or traditions did your family have when you were growing up that are based on Mexican-American or Spanish ^d culture? Does your family live by or follow the Mexican-American or Spanish ^d way of life?	Do <u>you</u> live by or follow the Mexican-American or Spanish ^d way of life? Is your family a success in the Mexican-American or Spanish ^d way of life? Are <u>you</u> a success in the Mexican-American or Spanish ^d way of life? In the future, with your own family will you do special things together or have special traditions that are based on Mexican-American or Spanish ^d culture?

Note. Scale reliabilities include both Mexican-American and European-American adolescent samples unless otherwise indicated

^aSemantic Differential: 1 - a lot, 2 - some, 3 - not much, 4 - not at all

^bSemantic Differential: 1 - not at all, 2 - once, 3 - twice, 4 - three-four times, 5 - five or more times

^cReliability information from published studies is not available

^dThe questionnaire administered to European-Americans asked about White-American or Anglo culture and way of life