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Parental Suicidality as a Risk Factor for Delinquency among Hispanic Youth

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Abstract

Several studies have examined the factors associated with juvenile delinquency, but this literature remains limited largely because it has not moved beyond traditional factors generally and because of the lack of research conducted on minority—especially Hispanic—youth. This study seeks to overcome these two limitations by using data from a longitudinal study of 2,491 Hispanic (Puerto Rican) youth ages 5-13 (48.5 percent female) socialized in two different cultural contexts, Bronx, New York and San Juan, Puerto Rico, in an effort to examine the relationship between parental suicidality and offspring delinquency. Results indicate that while traditional risk/protective factors and parental mental health issues relate to delinquency in expected ways, youths whose parents attempted suicide engaged in more frequent and varied delinquency over time. Implications for theory and future research are addressed.

Keywords

risk/protective factors; suicide; Hispanics; delinquency; longitudinal studies

A number of studies have focused on children and adolescent suicide bereavement strategies (Cerel, Roberts, & Nilsen, 2005). Much of this research has revealed short- and long-term consequences for children and adolescents following the loss of a loved one to suicide including depression, anxiety, and PTSD (Feigelman & Gorman, 2008). In addition, Gould et al. (2004) demonstrated that youth often adopt maladaptive coping strategies following their losses, strategies which can produce negative consequences and life-course outcomes. Therefore, it is plausible to assume that a parent's suicide attempt and its association with death are likely to have deleterious consequences on the mental health and behavior of their offspring children. Furthermore, the event may even lead to a youth's sense of rejection and feelings of guilt, depression, shame, anger, or blame toward the suicidal parent.

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More specifically, Agnew's (1992) General Strain Theory (GST) suggests that strain results from one of three broadly defined causal processes: (1) failure to achieve positively valued goals; (2) the removal of positively valued stimuli; and, (3) the presentation of noxious stimuli. According to Agnew (1992, 2006), the experience of strain can produce negative affective states (e.g., anger, depression, anxiety, guilt), and the combination of strainful experiences and ensuing negative emotions often leads to adverse outcomes, including delinquency. Therefore, within the GST perspective, parental suicidality can be considered as a source of strain (e.g., a removal of positively valued stimuli), and thus a risk factor for delinquency. Furthermore, parental suicidality may also be considered a risk factor that either precedes or is related to the child's or adolescent's perceived parental rejection. For example, Agnew (2001, p. 343) argues that “parents who reject their children do not express love or affection for them, show little interest in them, provide little support to them, and often display hostility toward them.” Experiencing parental rejection may create some degree of pressure or incentive to engage in crime because those youth who feel rejected by their parents (perhaps as a direct result from their parent's suicide attempt) are more likely to be exposed to negative behaviors from their parents and associate with delinquent peers (Agnew, 2001).

Acknowledging these empirical findings and theoretical issues, this study provides an initial exploration into the relationship between parental suicidality and offspring delinquency using longitudinal data from two samples of Hispanic youth socialized in two different cultural contexts, Bronx, New York and San Juan, Puerto Rico. This study also examines this relationship within the traditional risk/protective factor literature for delinquency in order to assess parental suicidality as a risk factor for delinquency specifically, and to evaluate its influence on a youth's delinquency alongside other well known risk/protective factors and additional parental mental health issues more generally. Ultimately, the findings from this study have relevance for a variety of literatures, and also contribute to the limited amount of criminological research focusing on Hispanics.

Traditional Delinquency Risk and Protective Factors

Longitudinal data on delinquency among children and adolescents permits an exploration not only into the developmental progression of delinquency, but also the opportunity to identify risk and protective factors that may affect the continuation and/or cessation of delinquency over time (Loeber & Farrington, 1998). Operating within this framework, a number of studies have identified factors associated with delinquency, such as drug use, unsafe sex, dangerous driving, and a variety of mental health issues. These factors also appear to be particularly salient across gender and racial/ethnic groups (Piquero, Daigle, Gibson, Piquero, & Tibbetts, 2007). Other research has demonstrated that child, peer, and environmental factors are important correlates of delinquency (Chung, Hill, Hawkins, Gilchrest, & Nagin, 2002). Specifically, early aggression, poor family management, associating with antisocial peers, and drug availability were shown to be related to both serious and frequent offending.

In addition to these classic risk factors, neighborhood disorder has also been found to relate to delinquency (Arkes, 2007). Ecological research has demonstrated that a myriad of social problems are apparent in poor neighborhoods and communities, including concentrated poverty, racial heterogeneity, and family disruption (Coulton, Korbin, Su, & Chow, 1995), and evidence suggests that minorities (particularly African Americans and Hispanics) tend to reside disproportionately within these areas (U.S. Census Bureau, 2000). Further, children and adolescents living in disadvantaged neighborhoods and communities typically report greater involvement in delinquency, as well as greater exposure to violence and neighborhood problems (Elliott et al., 1996). Compared to non-minority youth, minority

children and adolescents face an elevated risk for delinquency given their disproportionate location in social and cultural contexts that are conducive to delinquency, crime, and neighborhood problems (McCord, Widom, & Cromwell, 2001). Therefore, it is clearly apparent that a host of factors are important for distinguishing youth who are involved in delinquency from those who abstain.

Parental Mental Health, Parenting, and Delinquency

There is a substantial amount of research evidencing a significant association between parental psychopathology and deficiencies in parenting (Jones, Forehand, Brody, & Armistead, 2003). Specifically, parental psychopathology has been associated with a lack of ability to respond affectionately and demonstrate consistency in parenting. Further, parents who have mental health issues often display feelings of rejection and hostility, in addition to expressing a general lack of parental self-efficacy (Downey & Coyne, 1990). Parental mental health issues, particularly depression, have also been shown to impede a parent's ability to effectively monitor (Jones et al., 2003) or discipline their children (Kotchick, Dorsey, & Heller, 2005), and failing to effectively monitor and discipline their child/ren has been theoretically and empirically tied to offspring delinquent involvement (Gottfredson & Hirschi, 1990). Specifically, a parent's failure to adequately socialize their offspring early in life is assumed to impede the development of self-control, and the association between low self-control and delinquency has been well-established in the literature (Pratt & Cullen, 2000).

Despite the noticeably rare research investigating parental mental health, parenting, and adverse child and adolescent outcomes among Hispanics, there are a few recent studies to suggest that these are relevant issues for Hispanic youth. For example, research has shown that parenting behaviors are affected by cultural values and cultural processes (Chao & Tseng, 2002), and it is logical to assume that the effect of parental mental health issues on parenting behavior will vary across ethnic groups (Pinderhughes, Nix, Foster, & Jones, 2001). More specifically, Loukas, Prelow, Suizzo, and Allua (2008) reported that cumulative familial risks, operationalized as neighborhood problems, financial strain, and maternal depression, were negatively associated with the parenting practices and styles of low-income Hispanic mothers. Cabrera, Shannon, West, and Brooks-Gunn (2006) have also noted the salience of parental psychopathology, specifically depression, as a key factor in determining parenting behaviors among Hispanic parents. Therefore, it appears that parental mental health has implications for the quantity and the quality of parenting.

Taken together, it is likely that a parent's suicide attempt (which is a specific parental mental health issue) will affect the offspring's delinquency directly via the strain resulting from experiencing a parental suicide attempt. However, it is also possible that the effect of a parental suicide attempt may indirectly affect delinquency through its influence on parenting behaviors such as disciplining, warmth, etc., which have been shown to be associated with delinquency. Therefore, the relationship between parental suicidality and delinquency is likely to be both direct and indirect.

Hispanic Youth and Delinquency

While there is very little empirical research on Hispanics and delinquency (Morenoff, 2005), several studies report key similarities among risk factors when comparing minorities and non-minorities. Farrington, Loeber, and Stouthamer-Loeber (2003) examined delinquency among youths in the Pittsburgh Youth Study and found a number of risk factors associated with delinquency, such as African American race, poverty, single-parent household, young maternal age, use of coercive disciplining techniques, residing in a bad neighborhood, and poor school achievement. Relying on data from the Baltimore Perinatal Project, Piquero,

Brame, and Moffitt (2005) found that the risk factors for delinquency were similar across race, yet minority youth displayed higher levels of risk factors compared to non-minority youth. McCord et al.'s (2001) review of the juvenile offending literature revealed that minorities are disproportionately exposed to higher rates of poverty and report more lengthy residence in poor neighborhoods and communities, both of which consistently predict delinquency. Thus, while it appears that race is a significant correlate of delinquency, it is also important to note that race and poverty are inextricably linked.

Early delinquency research with Hispanic samples has noted that the disproportionate minority contact rate among Hispanic juveniles was not far behind that of African Americans (Dreyfoos, 1990), and others have since demonstrated the high prevalence and frequency of violence among Hispanic youth (Chavez, Oetting, & Swaim, 1994). Further, ethnographic research has identified the importance of socio-cultural influences, such as family bonding, on insulating Hispanic youth from involvement in delinquency (Rodriguez & Weisburd, 1991). More recently, Pabron's (1998) results from a large sample of Puerto Rican males suggested that time spent with family, specifically the frequency, duration, intensity, and the priority of the associations between the parent and the youth, served as a protective factor for delinquency. In addition, family conflict and unsupervised socializing with peers have also been linked to Hispanic delinquency (Samaniego & Gonzales, 1999; Yin, Katims, & Zapata, 1999), and one study in particular discovered gender differences in offending among Hispanic adolescents as well (Yin et al., 1999). Therefore, this early evidence suggests that delinquency is an issue among Hispanic youth, and the more recent research demonstrates there are identifiable risk/protective factors that relate to Hispanic delinquency in logical ways.

Most recently, Pérez, Jennings, and Gover (2008) analyzed a large sample of Hispanic adolescents and found that gender, experiences of abuse, academic problems, and prior criminal history were significant predictors of delinquency. Two additional ethnic-specific risk factors also had direct effects on delinquency, e.g., being born in the U.S. and self-reporting high levels of perceived discrimination. These findings also were largely consistent across community contexts, regardless of whether the youth resided in communities with either high or low concentrations of Hispanic residents. Similarly, Maldonado-Molina, Piquero, Jennings, Bird, and Canino (2009) presented evidence on the longitudinal sequencing of delinquency among Hispanic children and adolescents, and found that a number of risk and protective factors, such as sensation-seeking, definitions favorable toward law violations, delinquent peers, poor school environment, and exposure to violence, distinguished delinquents from non-delinquents over time. Ultimately, a review of the literature focusing on Hispanic youth and delinquency provides some indication of how traditional risk/protective factors may explain their delinquency, but this research also recognizes the salience of ethnic-specific stressors (e.g., being born in the U.S.) that are likely to have demonstrable links with delinquency as well.

The Role of Cultural Context

It also is important to consider the cultural (ecological) contexts of where the Hispanic (Puerto Rican) youth in this particular study reside because it is possible that this cultural context may condition the relationships examined here. There are several reasons to expect that Puerto Rican youth socialized in the United States may face an elevated risk for delinquency compared to their native Puerto Rican counterparts on the mainland. Specifically, these reasons largely relate to the increased susceptibility among Puerto Rican youth in the United States for experiencing a host of daily undesirable life circumstances. For example, there are observable income differences between the two sites (Bronx, New York and San Juan, Puerto Rico) such as the percentage of households receiving welfare or

public assistance is significantly greater in the Bronx. However, the effect of poverty in general may vary across cultural context considering that nearly half of Puerto Ricans in Puerto Rico are living in poverty whereas a much smaller percentage of the U.S. population is living in poverty. Second, another notable cultural and contextual difference between the two samples is that Puerto Ricans residing in the Bronx are likely to face stressors associated with the acculturation process (Pérez et al., 2008), specifically the pressure to know and use the English language. Comparatively, this would not likely be a cultural stress experienced by Puerto Rican youth who reside on the mainland in Puerto Rico considering the fact that they are the majority ethnic group and English is not the predominant language.

Additional stressors have also been linked with delinquency. Specifically, Puerto Rican youth residing in the Bronx are disproportionately more likely to experience intergenerational conflict with their parents and face discrimination in the classroom that their Puerto Rican counterparts on the mainland would not likely experience (see Pérez, et al., 2008). Thus, it is apparent that Puerto Rican children and adolescents in the Bronx are likely to display higher levels of involvement in delinquency as a result of their unique experiences as an ethnic minority in the United States that Puerto Rican children and adolescents in Puerto Rico are not subjected to.

Current Study

Relevant research suggests that youth often adopt maladaptive coping strategies following the loss of a loved one to suicide (Gould et al., 2004), and while some research suggests that suicides are generally impulsive acts (Simon et al., 2001), other research reveals that most completed suicides are frequently preceded by prior suicide attempts and ideations (Battle, Battle, & Tolley, 1993; Marttunen, Aro, & Lonnqvist, 1992). As such, the effect of parental suicidality on offspring delinquency may very well persist over time. Recognizing the limited research on Hispanic delinquency, this study employs data from the Boricua Youth Study (BYS), which is the first child and adolescent psychiatric epidemiological study involving youth from the same ethnic (Puerto Rican) group, but socialized in two entirely different cultural contexts (Bronx, New York, and San Juan, Puerto Rico), to explore the relationship between parental suicidality and offspring delinquency.

Specifically, our expectations and a review of the literature suggest the following three tentative hypotheses. First, parental suicidality will be positively associated with delinquency as this event can be considered a source of strain (e.g., a removal of positively valued stimuli). Second, parental suicidality will maintain its positive association with delinquency alongside other parental mental health issues, such as alcohol and drug abuse problems and depression. This relationship is particularly likely considering the fact that parental suicidality has been directly linked to maladaptive coping strategies among youth, which lead to adverse life outcomes, including delinquency. Finally, parental suicidality will be positively associated with delinquency net of the effects other parental mental health issues (e.g., alcohol abuse, drug abuse, and depression) and traditional risk/protective factors. However, it is also possible that some of its effect may be indirect due to the influence that parental mental health issues may exert on parenting and disciplining techniques, which are expected to be significantly associated with delinquency.

Methods

Data and Sample

Data for this study come from two samples of youth who participated in the Boricua Youth Study (BYS) (Bird et al., 2000a,b), a longitudinal study of a matched sample of Puerto Rican children and adolescents socialized in two different cultural contexts (Bronx, New

York and San Juan, Puerto Rico). According to the original research team, three annual waves of child and parent-report data were collected between summer 2000 and fall 2004. The sampling process yielded 1,414 eligible participants in Bronx, New York of which 1,138 were interviewed (completion rate= 80.5%), and 1,353 of the 1,526 eligible participants in San Juan, Puerto Rico agreed to participate (completion rate= 88.7%) (Bird et al., 2006a,b; Bird et al., 2007). Because missing data was less than 3-4% in both sites, mean replacement was used when data was missing for any of the measures used in the analysis.

Overall, there were a roughly equivalent number of males and females in both the Bronx (51.36% male) and San Juan (51.75% male) samples. The mean ages of the youth across waves were 9.65 at time 1, 10.62 at time 2, and 11.56 at time 3. With regard to the site-specific ages, the average age of the San Juan sample was 9.77 (time 1), 10.72 (time 2), and 11.74 (time 3), whereas the average age of the Bronx sample was 9.51 (time 1), 10.49 (time 2), and 11.33 (time 3). While the San Juan sample was statistically but not substantively older than the Bronx youth at time 1 (mean difference = 0.25 years, $t = 2.55$, $p < .05$), gender did not vary across sites ($t = 0.19$, $p = .85$).

Dependent Variable

Delinquency—The dependent variable was an additive scale based on a common self-report delinquency measure and contained approximately 30 questions (Elliott, Huizinga, & Ageton, 1985). Each youth reported either “yes” or “no” to whether they participated in a number of delinquent acts in the prior year, and the number of “yes” responses were summed in order to create a delinquency variety scale (Hindelang, Hirschi, & Weis, 1981). Example items include: “On purpose broken or damaged or destroyed something that did not belong to you?”; “Taken something from a store without paying for it?”; “Carried a hidden weapon?”; “Hit, slapped, or shoved other kids or gotten into a physical fight with them?”; “Skip school without an excuse?”; “Drunk any beer, wine, or any other liquor?”; “Smoked marijuana, weed, pot, or phillies (or blunts)?”; and “Attacked someone with a weapon or to seriously hurt or kill them?” Due to the skewed nature of the original delinquency scale at time 1, time 2, and time 3, the natural logarithmic transformation was applied to the delinquency measure at each wave prior to analysis.

Independent Variable

Parental Suicidality—The main independent variable/risk factor was a dichotomous (yes/no) measure indicating whether the child's or adolescent's parent reported (at time 1) that they had attempted suicide, where 1=prior suicide attempt and 0=no reported prior suicide attempt.

Demographic Factors

Male—A dichotomous variable where 1=male and 0=female.

Age—Age was a continuous measure representing the child's or adolescent's age at the time of their interview, and depending on the analysis, either age at time 1, age at time 2, or age at time 3 was used.

Parental Mental Health Issues

Prior research has identified several parental mental health problems as compromising the effectiveness of parental socialization and in turn, exacerbating offspring delinquency (Wasserman & Seracini, 2001).

Alcohol Abuse—A dichotomous variable indicating whether the youth's parent had alcohol abuse problems (1=yes; 0=no).

Drug Abuse—A dichotomous variable indicating whether the youth's parent had drug abuse problems (1=yes; 0=no).

Depression—A dichotomous variable indicating whether the youth's parent had depression (1=yes; 0=no),

Risk/Protective Factors

A number of risk/protective factors commonly included in U.S.-based delinquency studies with non-Hispanics (Chung et al., 2002; Loeber & Farrington, 1998; Piquero, Farrington, & Blumstein, 2003) along with additional risk/protective factors that have more recently been incorporated in Hispanic delinquency research (Maldonado-Molina et al., 2009; Pérez et al., 2008) were included as risk/protective factors.

Site—A dichotomous indicator of the cultural context where the youth resides, where 1=Bronx, New York and 0=San Juan, Puerto Rico.

Welfare—A dummy variable representing whether the child's or adolescent's family were on welfare or receiving some type of public assistance other than social security. Families on welfare or receiving public assistance were coded as 1, and those families not on welfare or receiving public assistance were coded as 0.

Sensation-Seeking—This risk factor was comprised of 10 items that measured the level of the child's or adolescent's preference for thrill- and adventuring-seeking behavior (α = 0.72) (Russo et al., 1991, 1993). Higher values represented a greater preference for thrill- and adventure-seeking behaviors.

Peer Relations—This protective factor was a 5-item scale representing the child's or adolescent's sense of belonging, feeling liked, and getting along well with others (α = 0.58) (Hudson, 1992). Higher values indicated a greater sense of belonging and positive peer relations.

Peer Delinquency—This risk factor was a scale that measured the number of the child's or adolescent's peers that were engaged in a series of delinquent acts, where the response options ranged from 0=none of them, 1=only a few of them, 2=about half of them, to 3= most of them (α = 0.85) (Loeber, Farrington, Stouthamer-Loeber, & Van Kammen, 1998). Higher values represented a greater number of delinquent peers.

Parent-Child Interaction—This protective factor was a scale that included 12 items that measured the quality of the parent- child/adolescent relationship, with a representative item being “How often do your parents/caretakers do things with you?” (α = 0.75) (Loeber et al., 1998). Higher values represented a greater sense of the quality of the parent-child interactions (or positive parent-child interactions).

Coercive Discipline—This risk factor was a 6-item scale that reflected the extent of the parent's use of coercive disciplining techniques such as ignoring or acting cold toward the child or adolescent when they did something wrong or yelling or swearing at the child or adolescent when they did something wrong (α = 0.67) (Goodman et al., 1998). Higher values represented the parent's greater use of coercive disciplining techniques.

Cultural Stress—This risk factor was a 13-item measure derived from the Hispanic Stress Inventory (Cervantes, Padilla, & Synder, 1990), and the scale reflected different aspects of stress that Hispanics experience with a special focus on acculturation ($\alpha = 0.78$). Higher values represented a greater experience of cultural stress.

School Environment—This risk factor was an 8-item scale that measured the negative characteristics of the school that the child or adolescent attended such as whether kids at school were involved in gangs, whether there were fist fights at school, or shootings, knifings, or razor blade attacks at school ($\alpha = 0.55$). Higher values represented a poorer or more negative school environment.

Exposure to Violence—This risk factor was a multiple item measure based on Richters and Martinez's (1993) exposure to community violence scale as modified by Raia (1995). The children/adolescents responded to a series of questions about whether they experienced violence themselves, saw violence happen to others, or heard about violence happening to someone they knew. This measure was weighted such that if the violence happened to the child or adolescent (e.g., direct victimization) the response was coded as 3, if the child or adolescent saw the violence happen to others (e.g., indirect victimization) then the response was coded as a 2, and if the child or adolescent heard about the violence happening to someone they knew (e.g., indirect victimization) then the response was coded as a 1. Each of the child's or adolescent's weighted responses to a series of questions gauging exposure to a number of violent events was summed in order to create the weighted exposure to violence scale, where higher values represented greater exposure to violence. Due to the skewed nature of the original exposure to violence scale, the natural logarithmic transformation was applied prior to analysis.

Analytic Strategy

The analysis takes place in two stages. First, we present sample summary statistics in order to get a sense of the mean prevalence and/or levels of the risk/protective factors. The prevalence of parental suicidality at time 1 and the rates of delinquency for time 1, time 2, and time 3 are also presented. Second, we conduct a multivariate longitudinal analysis of the effect of parental suicidality on a Hispanic child's or adolescent's delinquency net of the effects of demographic controls (Model 1), net of the effects of the demographic controls and other parent mental health issues (Model 2), and finally net of the effect of demographic controls, other parental mental health issues, and additional relevant risk and protective factors (Model 3).

Because the original distribution of the delinquency measure was skewed, we applied a natural logarithmic transformation to the delinquency measure at time 1, time 2, and time 3 prior to analysis. Even with this transformation, the mean and standard deviation for the delinquency measures still indicated some level of skewness, which suggested that standard linear regression techniques were inappropriate. Thus, we turned to count-based models, which are often used as a method for correcting the inefficient and biased estimates that are produced when standard linear regression techniques are applied to dependent variables that represent a count or the frequency of an event (Long, 1997). Considering that our dependent variable was an additive scale of delinquent endorsement for a number of acts (e.g, a count-based dependent variable) and that the natural logarithmic variant still appeared skewed, we estimated our multivariate models using Poisson regression and these results are discussed below.

Results

As can be seen in Table 1, there were slightly more males and Puerto Rican children and adolescents from San Juan than females and Puerto Rican children and adolescents from the Bronx. On average, the youth were approximately age 10 at time 1, 11 at time 2, and 12 at time 3. Slightly less than half of the youths' family was either on welfare or receiving public assistance other than social security. The youth tended to be low on sensation-seeking, peer delinquency, coercive discipline, cultural stress, exposure to violence, and attending a poor school environment. Comparatively, they were high on peer relations and parent-child interactions. Approximately 10% of the youth's parent's had alcohol or drug problems, slightly less than one-third of the youth's parents had depression, and approximately six percent of the youths' parent's reported having attempted suicide, which did not substantively or significantly vary by cultural context. Finally, (prior to applying the natural logarithmic transformation), the delinquency rates for the sample was 0.74 (range= 0 – 20 delinquent acts) at time 1, 0.46 (range= 0 – 14 delinquent acts) at time 2, and 0.41 (range= 0 – 23 delinquent acts) at time 3.

With regard to the first two exploratory hypotheses, results from the Poisson-based multivariate analysis indicate that a parent's suicidality had a positive effect on increasing a child's or adolescent's involvement in delinquency when estimated in a baseline model with only the demographic controls (Model 1) and when included in a model (Model 2) with other parental mental health issues such as parent's alcohol and drug abuse problems and having depression, none of which had a direct, significant effect on offspring delinquency.

Acknowledging these results, the empirical question still remains whether or not these results hold in a more fully-specified model. The results from this next series of fully-specified models revealed two key findings with respect to the third exploratory hypothesis. First, these results (Model 3) suggested that the majority of the demographic and traditional risk/protective factors were significantly related to delinquency. Males (b= 0.23, se= 0.07, p<.001) and Puerto Rican children and adolescents residing in the Bronx (b= 0.14, se= 0.07, p<.001), and youth who had a proclivity for thrill- and adventure-seeking behavior (sensation-seeking) (b= 0.10, se= 0.01, p<.001), had a greater number of delinquent peers (b= 0.31, se= 0.09, p<.001), had parents who frequently used coercive disciplining techniques (b= 0.29, se= 0.05, p<.001), attended a more negative school environment (b= 0.05, se= 0.01, p<.001), had greater exposure to direct and indirect forms of violence (b= 0.33, se= 0.03, p<.001), and reported greater involvement in delinquency net of other risk/protective factors at time 1. In contrast, youth who had a greater sense of belonging and felt liked by their peers (b= -0.05, se= 0.03, p<.05) and reported having quality parent-child interactions (b= -0.39, se= 0.17, p<.05) reported less involvement in delinquency net of other relevant risk/protective factors at time 1. Second, and most importantly, even after controlling for demographic characteristics, other parental mental health issues, and a number of relevant risk/protective factors, the effect of a parent's suicide attempt remained positive and significant in Model 3 (b= 0.23, se= 0.14, p<.05). Further, this effect also remained robust and consistent for time 2 (b= 0.32, se= 0.16, p<.05) and time 3 (b= 0.33, se= 0.17, p<.05). In short, parental suicidality emerged as a key risk factor for offspring delinquency, an effect that was sustained over time and remained so after consideration of other relevant risk/protective factors and parental mental health issues.

Discussion

This study explored the relationship between parental suicidality and offspring delinquency, over and above other parental mental health issues (e.g., alcohol and drug abuse and depression) and established delinquency risk/protective factors. Importantly, this question

was examined using a unique sample of Hispanic children and adolescents socialized in two different cultural contexts (Bronx, New York and San Juan, Puerto Rico). Several interesting findings emerged from this research.

Multivariate results revealed that, for the most part, established risk/protective factors were significantly related to the frequency and variety of delinquency over time. Consistent with prior research (Chung et al., 2002), a number of child, family, and environmental factors were also associated with delinquency, including gender, sensation-seeking, peer relations, peer delinquency, parent-child interactions, and parent's coercive disciplining practices. Consistent with evidence that minorities (particularly African Americans and Hispanics) living in the United States tend to disproportionately reside within areas characterized by neighborhood problems conducive to delinquency, Puerto Rican children and adolescents residing in the Bronx (a predominantly urban area with a high crime rate) reported significantly greater involvement in delinquency compared to Puerto Rican children and adolescents who resided in San Juan (where Hispanics are not the minority group). Exposure to violence, which is also common in areas with poor neighborhoods and schools, was significantly associated with delinquency. Finally, the significant risk/protective factors were also consistent with the recent delinquency research involving Hispanic youth (Maldonado-Molina et al., 2009; Pérez et al., 2008).

Turning to the question motivating this study, we explored whether parental suicidality was a risk factor for delinquency among the Hispanic youth. The results were relatively robust and consistent. Specifically, youth whose parent's self-reported a suicide attempt reported significantly greater delinquency net of the effects of demographic variables, additional parental mental health issues, and relevant traditional risk/protective factors. Further, the evidence suggested that the effect of parental suicidality on delinquency was not diminished over time as it continued to be significantly and positively associated with delinquency over a two-year period. Thus, while research has revealed both short- and long-term consequences for children and adolescents who experience the loss of a loved one to suicide including depression, anxiety, and PTSD (Feigelman & Gorman, 2008), parental suicidality emerged as a risk factor for the child or adolescent adopting maladaptive coping strategies (Gould et al., 2004), particularly delinquency. These results are also consistent with Agnew's (1992, 2001, 2006) General Strain Theory insofar as parental suicidality may be considered a source of strain, specifically the loss of a positively valued stimuli. Yet, it may also be the case that parental suicidality precedes or is related to the child or adolescent expressing a feeling of parental rejection, and that this parental rejection is a source of strain that leads to delinquency as a source of coping.

To be sure, it is important to recognize some limitations associated with the study. First, we only focused on parental (and not offspring) suicidality. Several studies have examined the relationship between child and adolescent delinquency and suicidality (Thompson, Ho, & Kingree, 2007) and peer suicidality and delinquency (Lui, 2006). Perhaps the loss of a peer to suicide or a child's or adolescent's decision to attempt to take their own life may be a more salient event for delinquency than parental suicidality. These questions present possible areas where future research examining the relationship between suicidality and delinquency might consider exploring. Second, the BYS is comprised of Hispanic children and adolescents only and of one particular ethnic group of Hispanics (e.g., Puerto Ricans). The degree to which the effect of parental suicidality on delinquency generalizes beyond Hispanics and Puerto Rican youth remains open. Third, considering the importance that Agnew (1992, 2006) gives to the timing (and specifically the recency) of experiencing a strainful event, future research should make an effort to collect data on the timing of parental suicidality and the delinquent events using a shorter recall period than was available for this study (12 months). This would allow for a more definitive statement on how the

proximity of experiencing a parental suicide attempt affects subsequent delinquent activity. Fourth, it also would be interesting for future longitudinal research to collect data on the successful parental suicide attempts in order to measure the impact of parental suicide attempts followed by a successful parental suicide on offspring delinquency, along with comparing the relative effects of parental suicide attempts versus completions on their offspring's subsequent delinquency. Finally, given the use of a self-reported measure of delinquency in the BYS, future studies should examine the extent to which these findings hold using official sources of delinquency.

These findings show that parental suicidality is an important correlate of offspring delinquency, one that holds salience over time and one that relates to negative life outcomes among Puerto Rican youth in two different cultural contexts. Unpacking this relationship by better articulating the underlying causal process is an important next step. In this regard, the collection of qualitative data among youth who confront parental suicidality holds unique promise. More generally, given the paucity of research on Hispanics and delinquency, we hope that our effort initiates a lengthy line of studies that examine the correlates of Hispanic delinquency. Even the most basic descriptive efforts are important as theorists, researchers, and policymakers continue to assess the similarities/differences in the correlate/crime linkage across race/ethnicity.

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Table 1
Boricua Youth Study: Descriptive Statistics (n=2,491)

Measures	*M*	*SD*	Min	Max
Male	0.51	--	0.00	1.00
Site (Bronx=1)	0.46	--	0.00	1.00
Welfare	0.41	--	0.00	1.00
Age (t1)	9.65	2.56	5.00	15.00
Age (t2)	10.62	2.47	5.00	16.00
Age (t3)	11.56	2.42	6.00	17.00
Sensation-Seeking	3.23	2.43	0.00	10.00
Peer Relations	4.19	1.12	0.00	5.00
Peer Delinquency	0.23	0.33	0.00	2.00
Parent-Child Interaction	0.74	0.21	0.00	1.00
Coercive Discipline	0.37	0.56	0.00	3.00
Cultural Stress	0.14	0.20	0.00	1.00
School Environment	2.84	2.91	0.00	14.00
Exposure to Violence (natural log)	1.04	1.03	0.00	4.20
Parental Suicidality	0.06	--	0.00	1.00
Parental Alcohol Abuse	0.10	--	0.00	1.00
Parental Drug Abuse	0.10	--	0.00	1.00
Parental Depression	0.29	--	0.00	1.00
Delinquency (t1) (natural log)	0.34	0.55	0.00	3.04
Delinquency (t2) (natural log)	0.23	0.44	0.00	2.71
Delinquency (t3) (natural log)	0.20	0.41	0.00	3.18

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Table 2

Poisson Regression Results: Predicting Delinquency over Time with Parental Suicidality (n=2,491)

	Time 1			Time 2			Time 3		
	Model 1	***Model 2***	***Model 3***	***Model 1***	***Model 2***	***Model 3***	***Model 1***	***Model 2***	***Model 3***
Baseline Measures	***b (se)***	***b (se)***	***b (se)***	***b (se)***	***b (se)***	***b (se)***	***b (se)***	***b (se)***	***b (se)***
Male	0.43(0.07)***	0.43(0.07)***	0.23(0.07)***	0.36(0.09)***	0.36(0.09)***	0.21(0.09)***	0.39(0.09)***	0.38(0.09)***	0.22(0.10)*
Site (Bronx=1)			0.14(0.07)*			0.30(0.09)***			0.26(0.10)***
Welfare			-0.02(0.07)			-0.05(0.09)			-0.07(0.09)
Age (t1)	0.01(0.01)	0.01(0.01)	0.01(0.01)						
Age (t2)				0.01(0.02)	0.01(0.02)	0.01(0.02)			
Age (t3)							0.09(0.02)***	0.09(0.02)***	0.08(0.02)***
Sensation-Seeking			0.10(0.01)***			0.08(0.02)***			0.10(0.02)***
Peer Relations			-0.05(0.03)*			-0.07(0.04)*			-0.05(0.04)
Peer Delinquency			0.31(0.09)***			0.02(0.12)			0.01(0.14)
Parent-Child Interaction			-0.39(0.17)*			-0.21(0.21)			-0.13(0.23)
Coercive Discipline			0.29(0.05)***			0.21(0.07)***			0.17(0.07)*
Cultural Stress			0.15(0.22)			-0.31(0.30)			-0.20(0.29)
School Environment			0.05(0.01)***			0.02(0.01)+			0.01(0.01)
Exposure to Violence (natural log)			0.33(0.03)***			0.22(0.04)***			0.21(0.05)***
Parental Suicidality	0.21(0.13)+	0.21(0.14)+	0.23(0.14)*	0.31(0.16)*	0.31(0.16)*	0.32(0.16)*	0.32(0.17)*	0.31(0.17)*	0.33(0.17)*
Parental Alcohol Abuse		0.11(0.13)	0.01(0.12)		0.17(0.15)	0.07(0.15)		-0.08(0.17)	-0.17(0.17)
Parental Drug Abuse		0.08(0.12)	0.17(0.13)		0.12(0.14)	0.17(0.14)		0.11(0.15)	0.16(0.15)
Parental Depression		0.04(0.08)	0.02(0.08)		0.07(0.09)	0.03(0.09)		0.10(0.10)	0.06(0.10)
Model Diagnostics									
Log Likelihood	-1799.51	-1798.25	-1591.02	-1404.57	-1402.48	-1334.88	-1269.30	-1268.38	-1209.10
Likelihood-Ratio Chi-Square	39.79***	42.31***	453.45***	21.28***	25.46***	152.97***	42.50***	44.33***	148.96***

+ p<.10

* p<.05

** p<.01

*** p<.001 (one-tailed)