Risk and Protective Factors Associated with Gang Involved Youth in a Caribbean Nation

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Abstract

Objectives: The present study sought to examine the prevalence of gang involvement, the risk and protective factors associated with gang involvement, and the association between gang involvement and exposure to multiple risk and protective factors among school aged youth in Trinidad and Tobago.

Methods: The survey instrument used in the present study measured 30 risk factors and 13 protective factors within four domains: community, school, family, and peer/individual. The instrument also measured levels of alcohol, drug use, and delinquency. The final sample included 2 206 students enrolled in 22 urban public schools.

Results: About 7.7% of youth reported being a gang associate, 6.8% reported being a former gang member, and 6.2% reported being a current gang member. Gang involvement was associated with perceived availability of handguns, neighborhood mobility, having parents who favored anti-social behavior, early initiation of antisocial behavior, intention to use drugs, having antisocial peers, and having peers who use drugs. Those with social skills, belief in moral order, and those who had interaction with pro-social peers were significantly less likely to self-report gang membership. Additionally, the probability of gang involvement increased as the number of risk factors increased.

Conclusions: Gang membership among public school youth is about as prevalent in Trinidad as it is in the United States, Canada, and Western Europe, but further research is needed. Although risk factors associated with gang involvement were present in all four domains, peer-individual risk factors were disproportionately likely to be associated with gang status. The most effective gang prevention strategies might be those that focus on multiple risk factors, with an emphasis toward peer-individual factors.

Key words: Gang, youth, risk and protective factors, Caribbean, Trinidad

INTRODUCTION

Over the last several years, gangs, gang members, and gang-related problems have become increasingly recognized in many regions of the world as a major public health problem (1). So much so that global public health organizations such as the Pan-American Health Organization and international development organizations such as the Organization of American States (OAS), Canadian International Development Agency (CIDA), and the United States Agency for International Development (USAID) are allocating substantial resources toward gang prevention and intervention programming (2-4). This has largely been a consequence of the growing realization that gang membership increases the health risks for young persons, and that individuals associated with gangs are substantially more likely to experience negative health outcomes such as violent injury, death, sexually transmitted disease, unwanted pregnancy, and drug and alcohol overdose (5).

Gang research has a long and rich history in the United States, and it has begun to flourish in Europe; however, gangs and gang-related phenomenon have not been examined systematically elsewhere, including the Caribbean (6, 7). The fact that in Caribbean nations almost no research has examined the scope and nature of the gang problem, much less the risk and protective factors associated with gang involvement and violence should not be surprising. Caribbean scholars have steadily reported that until recently the health status of their young people has received little attention, and this is even more true for gang-related phenomena (8).

In 2005, Ohene, Ireland, and Blum conducted one of the few studies that examined the prevalence of gang membership in the Caribbean. They reported that 17-24% of males and 11-16% of females (varying by age) reported being involved in a gang (9). Their findings suggested that compared with more developed nations the Caribbean might have a significant gang

problem.[1] Earlier research funded by the World Bank seems to have supported this notion. Moser and Holland reported that in many Jamaican communities, gang violence had created a "virtual 'war,' dominating and pervading all aspects of community life and restricting mobility within the area." The authors concluded that gangs in Jamaica were a primary contributor to that nation's homicide problem (10). Similar findings have been reported for Trinidad and Tobago, where in 2008 the homicide rate had risen to 44.34 per 100 000 persons, placing it near the top of the list of most murderous nations (11), with gang members having been found responsible for 63% of the homicides (12).

Risk and Protective Factors for Gang Involvement

One approach to explaining, predicting, and addressing problem behaviors among youth is through the risk factor prevention paradigm (13). Risk factors are those characteristics or symptoms, that when present, increase the odds that an individual will be involved in problem behavior. Conversely, protective factors are those characteristics or symptoms, that when present, decrease the odds that an individual will be involved in problem behavior (8, 14-18).

Scholars note that the risk factor prevention paradigm was introduced to the study of behavior associated with crime and delinquency by Hawkins, Catalano and Miller (18). The authors categorized risk and protective factors into four domains: community, school, family, and peer and individual. Within each of the domains are factors that have been empirically found to put one at risk or provide protection for problem behaviors such as substance abuse, delinquency, violence, teen pregnancy, and academic failure (18, 19).

Identifying those risk and protective factors associated with gang membership is important for at least two reasons. The first is that it helps structure our understanding of those

[1] This is a difficult issue to assess, in large part because school based methodologies differ and perceptions of what constitutes gang membership might diverge from one country to another.

predictors that are associated with gang membership. For example, Thornberry (20) notes that the risk factor approach is very useful for isolating the most important factors that are related to gang membership and permits researchers to further diagnose, through more formal causal analyses, the root causes of gang membership. Second, the risk factor prevention paradigm helps structure prevention and intervention programming and helps target resources toward those with symptoms that are identified as being associated with the problem behavior (20, 21). Howell and Egley (22) emphasize that it is a "user-friendly conceptual model" that can be easily translated into programmatic responses by mid-level policymakers and practitioners, and Hawkins, Catalano and Arthur (23) note that risk and protection focused delinquency prevention programming has repeatedly been shown to be effective.

As noted above, while research over the past several decades has identified a number of risk and protective factors associated with problem behavior, relatively few have examined their relationship to gang membership. Klein and Maxson (21) recently synthesized and reviewed this body of literature. The authors reported that twenty studies had examined the association between risk factors and gang membership, and that this research had almost exclusively been conducted in the United States. They further reported that most of it had relied on bivariate analysis, had been primarily descriptive in nature, and had not included controls for many of the factors that are known to be associated with gang joining (21).

Consistent with the risk factor prevention paradigm, prior research has shown that there are multiple factors associated with gang joining. For example, these studies have shown that community factors such as availability of firearms (24), availability of drugs (25, 26), and number of neighborhood youth in trouble increase a youth's risk of joining a gang. Those with low commitment to school and low academic achievement have also been found to be

significantly more likely to join a gang (24, 26). Family management has also been shown to be a risk factor associated with gang membership. Youth who have parents who are less likely to supervise and monitor their child's activities and who express favorable attitudes toward anti-social behavior are more likely to join a gang (24, 26-29). The literature suggests, however, that peer-individual factors such as association with delinquent peers, early initiation to delinquent behavior, and possessing delinquent beliefs receive the strongest and most consistent support for being associated with gang membership (26, 28-30). Factors that lead to gang involvement are multifaceted, what might lead to gang involvement in one context, may not necessarily lead to the same outcome in another. For this reason, research is needed in varying contexts in order to understand which factors might be globally applicable and which are unique to specific locals.

As such, using data collected through the 2006 Trinidad and Tobago Youth Survey, the goal of the present study was to: 1- examine the prevalence of gang involvement, 2- examine risk and protective factors associated with gang involvement, and 3- examine the association between gang involvement and exposure to multiple risk and protective factors. The primary purpose of such research is to understand why Caribbean youth are joining gangs with the intention of using such information to develop gang prevention and intervention programs designed specifically for Caribbean nations.

METHODOLOGY

Study Area

The Republic of Trinidad and Tobago is a two-island nation located about 11 km off the northeastern coast of Venezuela, between the Caribbean Sea and the North Atlantic Ocean. Trinidad and Tobago obtained independence from Great Britain in 1962; however, it remains a member of the Commonwealth of Nations, and it continues to be highly influenced by British

culture and law. Although Trinidad and Tobago was once an agrarian society, over the past 30 years it has transformed into one of the wealthiest and most industrialized Caribbean countries, largely through petroleum production and the provision of regional finance. It currently reports one of the highest gross national incomes (per capita) and the second-fastest-growing economy among all Caribbean, Central American, and South American countries (31). The nation is comprised of about 1.26 million people, of whom 40% are East Indian, 37.5 % are African, and 20.5 % are Afro-Indian.

Education in the Republic of Trinidad and Tobago is compulsory for all children ages 6 to 12. After the completion of primary school, students may continue to secondary school, vocational studies, craft training, or they may end their formal education (32). Just over 72% of secondary school age youth (i.e., 12 to 18 years old) enroll in school, of which about 90% attend school on a daily basis (33). According to data provided by officials at the Educational Planning Division of the Ministry of Education in Trinidad and Tobago dropout rates among school attending youth are low, with 1.02% dropping out of school in the 2005-2006 school year.[2] Dropout rates did vary by gender and form, with 1.30% of males and less than one percent of females dropping out. The highest dropout rate was found for form five males, with 2.34% dropping out.

Within the last decade, Trinidad and Tobago has experienced a 555% increase in homicides, from 98 incidents in 1998 to 544 incidents in 2008. Most of the increase has been attributable to firearms-related violence (34) and gang warfare (10). The increase in violence has led to a significant increase in fear among residents in high-crime neighborhoods. For example, a study of one high-crime community found that "56% of residents [believed that] the risk of being

[2] One reviewer inquired about the possibility of sample selection bias and the proportion of youth who dropped out of school in the schools under study. Figures from the Trinidad and Tobago Ministry of Education indicated that in the 2005-2006 school year, 1.75% of Form 3 and 5 students (who were enrolled in the study schools) dropped out.

injured or killed because of crime [was] high, and many [felt] unsafe in their own neighborhood" (35).

Study Design

The present study examines data from the Trinidad and Tobago Youth Survey (TTYS), which was one of several data collection initiatives funded by the Trinidad and Tobago Ministry of National Security for the purpose of diagnosing the nation's violent crime problem. A cross-sectional research design was developed to ensure that there were a sufficient number of youth at high risk for delinquency and crime because the base rates for these behaviors were either unknown or were expected to be low. The target population for the TTYS was defined as third and fifth form students who attended high-risk urban public schools. At-risk schools were defined as those that the Ministry of Education had identified as having a disproportionate number of students who either lived in high-crime communities or attended a school that recorded a high number of delinquent incidents. Urban was defined as any school that was located within one of five urban school districts. This eliminated schools from three school districts, including the school district of Tobago. Of the 67 public schools that were eligible for inclusion in the study 27 were identified as being at "high risk."[3] We approached the 27 selected schools, of which 22 (81.5%) agreed to participate in data collection efforts. Our school level response rate was fairly typical by international standards (36-39); but is high when compared to other studies conducted in some developing nations (40).[4]

[3] Further analysis was conducted to examine whether in fact the schools identified for inclusion in the TTYS were high risk schools. Specifically, we examined the crime rates of the neighborhoods where the high risk schools were located with data provided by the Trinidad and Tobago Police Services (TTPS). Our results showed that there was high reliability between those schools identified by the Ministry of Education as being at high risk for crime and delinquency and crime data provided by the TTPS.

[4] As a point of interest there were 8 school districts and 92 public schools that enrolled students in forms three and five throughout the nation at the time of data collection. The present study was focused on five school districts that comprised 67 schools, of which we collected data from 22. As a consequence, our research included about 24% of all public schools in Trinidad and Tobago, or about one-third of all public schools located in urban areas.

Data Collection and Instrument

The survey instrument used in the present study was originally developed by the Social Development Research Group at the University of Washington. The instrument was chosen because its measures have been validated for use in the international community (12, 41-45). The instrument, however, was slightly modified for use by Trinidad and Tobago youth. Specifically, the instrument was provided to key stakeholders employed by the Ministry of Education to seek their advice on altering the instrument so that it reflected regional language and culture (i.e., monetary units, social activities, and organizations). The final version of the Trinidad and Tobago Youth Survey (TTYS) instrument contained 238 items that measured 30 risk factors and 13 protective factors, within four domains: community, school, family, and peer/individual. The survey instrument also measured levels of alcohol, drug use, and delinquency.

Between March and June 2006, the survey instrument was administered to 2 552 students during their home room period. All students attending school and present in their home room on the day the survey was administered were provided with a copy of the survey instrument. Students were informed that if they did not wish to participate in the survey they were to not fill out any questions and turn it in incomplete. Likewise, they were informed that if they did not want to answer a specific question they were not to provide an answer to that question. As a consequence, our sample excludes those youth not enrolled in school, missing from school, or those youth in hospitals or committed to detention facilities.[5]

Gang involvement served as the primary outcome variable for the present study. This was measured through two items: "Have you ever belonged to a gang," followed by "Think of your four best friends. In the past year, how many of your best friends have been a member of a

[5] Several inquiries were made about enrollment and absenteeism in participating schools. Several officials in the Ministry of Education stated that data were not routinely collected, and enrollment data that were available were not necessarily accurate. School officials estimated that 5-10% of students are absent from school on any given day.

gang?" Guided by prior research respondents were categorized into four groups. Students who reported currently being in a gang were categorized as current gang members. Students who reported having been in a gang in the past were categorized as former gang members.[6] Students who reported having two or more friends in a gang were categorized as gang associates. Students who did not self-report gang involvement were categorized as non-gang members.[7]

We examined 30 risk factors and 13 protective factors for their relationships to gang involvement. Table 1 presents the risk and protective factors and each of their properties by domain. Guided by previous research, we calculated a score for each respondent by averaging responses across items within each factor.[8] Scales were initially constructed using all items used by the Social Development Research Group. After scale construction, however, some of the scales were altered (i.e. items were dropped) due to lack of internal reliability. In the end, all multiple item scales used in the multivariate analysis demonstrated internal reliability (as measured by Cronbach's alpha). Appendix A describes the items and response categories used to construct risk and protective factor scales.

Respondents who scored in the upper third on a particular risk or protective factor were coded as "1," indicating that the respondent was at elevated risk (or protection) for the factor. Respondents who scored elsewhere in the distribution were coded as "0," indicating that they

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[6] As a form of validation, all former and current gang members were asked additional questions about the organizational structure of their gang. About 95% of both former and current members indicated that their gang possessed one or more of the following organizational qualities: name, territory or turf, a leader, regular meetings, rules, punishments if rules were broken, special colors, signs, symbols, or clothes, give money to the gang, make money from drug sales, kidnapping, or other crimes. The average number of organizational qualities reported by each former and current member was 4.5. Based on these results, respondents were indicating membership to a gang and not just an association to a delinquent peer network.

[7] While some academics have argued that a dichotomous measure of gang membership (i.e., past and current members in one category and non-gang members in another) is more analytically parsimonious, it does not allow for the potential of qualitative differences based on the extent to which an individual is involved in a gang. In particular, the very nature of this method of measurement might mask important behavioral distinctions according to the extent of gang association and in turn might result in fallacious findings and policy recommendations. For a thorough discussion of this issue see Katz, Webb, and Decker (46).

[8] Some items were required to be reverse coded before scale construction.

were at low risk (or protection) for the factor.[9] To examine the association of multiple risk and protective factors on gang association we counted the number of elevated risk and protective factors attributed to each respondent. Because there were 30 risk factors and 13 protective factors respondent's cumulative risk factor score could range from 0 to 30 and their cumulative protective factor score could range from 0 to 13.

--Table 1, about here--

Analysis

Bivariate analyses were used to examine the prevalence of gang involvement by gender, ethnicity, and age, and to assess the relationship of multiple risk and protective factors with gang involvement. Multinomial logistic regression was used to examine the risk and protective factors associated with gang involvement. We used multinomial logistic regression because our outcome measure was a nominal level variable. In multinomial logistic regression one category is chosen as the comparison (or base) category, which is contrasted with all other response categories. In the present study, we have four response categories: never in a gang, gang associate, former gang member, and current gang member. "Never in a gang" was chosen as the comparison category, to be contrasted with the other three responses. Additionally, given that surveys were collected across 22 schools, STATA 10.0 was used to calculate robust standard errors to account for clustering by school (49). Before interpreting the findings we conducted multicollinearity diagnostics. The diagnostic tests indicated that multicollinearity was not a problem; no variance

[9] There are advantages and disadvantages associated with dichotomizing predictor variables. Prior research indicates that dichotomizing risk and protective factors is beneficial as far as it increases interpretability (i.e. meaningful interpretations of odds ratios), and reduces the error associated skewed variables. Additionally, while the use of dichotomized predictors limits the amount of variation in a variable, it rarely affects the substantive findings (47). For an explanation of the cut point chosen for the present study see Bond et al. (48).

inflation factor was greater than two and no condition indices were over ten, well below levels that would suggest collinearity (50).

RESULTS

Of the 2 552 survey instruments that were administered to students, 6.9% were excluded from the present study because of invalid data. For example, near the end of the survey all respondents were asked "How honest were you in filling out this survey?" If the respondent did not answer the question or indicated "I was not honest at all," that survey was eliminated from the dataset (n = 85). Likewise, for respondents reporting use of a nonexistent drug (phenoxydine), their data were excluded from analysis (n = 91). Further, not all students who took the survey completed every question. Imputation of missing data was conducted using PRELIS 2.0 similar response pattern imputation. Research has supported this method of imputation, and there is evidence that it introduces less bias than listwise deletion and mean replacement (51). After the above protocols were applied, 2 206 surveys remained in the dataset and were used for the present study.

The final sample contained respondents ranging in age from 11 to 19 years old, with a mean age just over 15 years old. About 22% of the respondents were 14 or younger, 38.7% were 15 years old, 27.7% were 16 years old, and 13.6% were 17 or older. Females comprised 59.6% of the sample. In terms of ethnicity, 41.2% of the respondents indicated that they were African, 22.8% indicated that they were East Indian, and 15.3% indicated that they were Afro/Indian. For purposes of the analysis, the 17 respondents who reported being Chinese and the 18 who reported being White were combined with those who indicated that they belonged to an "other" (n = 423) ethnic group. Accordingly, 20.8% of respondents were coded as "other" for the purpose of the present study. We inquired why East Indian students might have been under-

represented in our sample. Representatives from the Ministry of Education explained that the East Indian population is generally wealthier and more likely to send their children to private schools than the African population. Private schools were not included in this study.

Gang Prevalence

Of the respondents in our sample, the majority (79.4%) reported never having been in a gang, 7.7% reported being a gang associate, 6.8% reported being a former gang member, and 6.2% reported being a current gang member (See Table 2). Analysis indicated that gang status varied significantly by gender, with 8.9% of male respondents and 4.4% of female respondents reporting being a current gang member. Likewise, more males (10.4%) than females (5.8%) reported being a gang associate, and more than twice as many males (10.1%) as females (4.5%) reported being a former gang member.

--Table 2, about here--

Gang association also varied, although not significantly (p=.051), by ethnic background. Those identifying themselves as belonging to an "other" ethnic group were most likely to report current gang membership (7.6%), followed by Africans (6.4%), East Indians (5.8%), and Afro/Indians (4.5%). About 10% of Afro/Indians reported being former gang members, as did 6.8% of "others," 5.6% of Africans, and 6.4% of East Indians. About 9% of those from an "other" ethnic group, 8% of Africans, 7.4% of Afro/Indians, and 5.8% of East Indians reported being gang associates. Gang affiliation was significantly associated with age, with former gang members being significantly older than current gang members, gang associates, and non-gang members.

Risk and Protective Factors Associated with Gang Status

Table 3 presents our findings with respect to those significant relationships we found between gang status and risk and protective factors. While all of the risk and protective factors shown in Table 1 were included in our analyses, Table 3 only presents the findings for those relationships that were found to be significant.[10] Analyses indicated that within the community domain two risk factors were associated with gang status. Respondents who reported residential mobility were more likely to be former gang members than non-gang members. Additionally, respondents who reported the availability of handguns in their communities were more likely to be current gang members (OR 2.503) [11] or former gang members (OR 2.864) than to be non-gang members. Within the school domain one risk factor was significantly related to gang involvement, with former gang members being less likely to report low commitment to school (OR 0.611). Within the family domain one risk factor was associated with gang status, that is, the odds of being a gang associate increased by about 45% for those who reported parental attitudes favorable toward antisocial behavior. In the peer-individual domain, five risk factors were significantly associated with gang status. Compared with non-gang members, gang associates were significantly more likely to report an elevated risk for antisocial peers (OR 6.255), peer drug use (OR 2.767), and peer alcohol use (OR 1.745). Former gang members reported being at greater risk for early initiation of antisocial behavior (OR 2.828) and intention to use drugs (OR 1.921). Current gang members were more likely to report being at elevated risk for early initiation of antisocial behavior (OR 1.717), intention to use drugs (OR 3.163), antisocial peers (OR 2.328), and peer drug use (OR 1.638).

[10] Space did not permit the inclusion of the results for all of the variables to be included in Table 3. Therefore, we only present our findings for those variables that were significantly associated with our outcome variable. Those readers interested in the results not presented in Table 3 should contact one of the authors.

[11] OR stands for odds ratio (i.e. the exponentiated regression coefficients, exp(*b*)), 95% confidence intervals for each odds ratio can be found in Table 3.

Analysis also revealed several protective factors associated with gang joining. For example, within the individual domain four protective factors were significantly related to gang involvement.[12] Current gang members were less likely to report the protection of social skills (OR 0.448) and belief in moral order (OR 0.617), and former gang members reported less interaction with pro-social peers (OR 0.491), as well as fewer social skills (OR 0.442). Reporting rewards for prosocial involvement, however, increased a respondent's odds of being a former gang member by about 58%. In the community domain we found that gang associates were significantly more likely than non-gang members to report rewards for pro-social involvement within their communities, and in the school domain we found that current gang members were more likely to report opportunities for pro-social involvement (OR 1.924). Within the family domain the odds of being a former gang member (OR 1.535) increased for those respondents who reported having the protection of opportunities for prosocial involvement.

--Table 3, about here--

Effect of Multiple Risk and Protective Factors on Gang Involvement

Table 4 presents our findings on the association between gang involvement and exposure to multiple risk and protective factors. Our analyses indicated that overall, 46.6% of respondents who reported being exposed to a high number of risk factors (17 or more) were not gang members (See Row %). Still, those who reported exposure to a high number of risk factors were more likely to be gang-involved (See Column %), and those who reported exposure to a low number of risk factors less frequently involved with a gang. A similar trend was observed for the relationship between multiple protective factors and gang involvement. Respondents who

[12] Overall, there was good model fit for the multinomial logistic regression model presented in Table 3. There was a significant chi-square (χ^2 = 753.02 with 129 degrees of freedom; p< .001). Additionally, the model effect size indicate that the risk and protective factors explain a substantial portion of the variance in gang status (Nagelkerke R^2 = .376).

reported exposure to a high number of protective factors were less likely to report gang involvement. For example, about 35% of those who had never been in a gang reported being exposed to seven or more protective factors; only about 17% of current gang members reported this level of exposure (See Column %). Likewise, 51.1% of current gang members and 37% of those who had never been in a gang reported exposure to two or fewer protective factors. A chi-square test for significance indicates that, in fact, the cumulative number of risk factors, and the cumulative number of protective factors vary significantly by gang involvement.

--Table 4, about here--

DISCUSSION

Our results suggest that gang membership is about as prevalent in Trinidad and Tobago as it is in public school samples in the United States, Canada, and Western Europe, but perhaps lower than some other Caribbean nations.[13] Specifically, 6.2% of the youth in our school-based sample were current gang members, 6.8% were former gang members, and 7.7% were associated with gang members. Until recently, research on gang prevalence had been conducted primarily in the United States, but within the last decade researchers from nations such as Great Britain, Canada, Germany, and the Netherlands have begun to examine the issue with school-based samples (6, 21). Prevalence estimates have varied depending on the researcher's definition of a gang and their sampling strategy, but work using unrestrictive definitions of a "gang" and sampling students from public schools has yielded fairly consistent prevalence rates (21).[14] The gang prevalence rates found in the current study, broken down by select socio-demographic

[13] See Klein and Maxson (21) for a full review of this body of literature.

[14] An unrestrictive definition, as used in the present study, question students about their gang status, leaving the interpretation of "gang" to the respondent. The use of a restrictive definition requires qualifying questions such as whether the respondent's gang has a name and a defined territory, and whether it engages in delinquent activity. No common strategy is used in gang research today. With respect to sampling strategies, some researchers have relied on sampling from the general student population while others have over-sampled from high-risk populations.

characteristics, were also similar to those of developed nations, with males and older respondents being more likely to report gang involvement (21). However, it is important to note that our gang membership prevalence rates are inconsistent with Ohene, Ireland, and Blum (9) who reported that 17-24% of male and 11-16% of female Caribbean public school students were either former or current gang members. While Ohene, Ireland, and Blum's (9) research focused on school youth in Jamaica and eight small island nations across the Caribbean, the difference in gang membership prevalence rates might be the result of inter-island differences, survey instrument question wording, or sampling protocol.[15]

We found that although risk factors associated with gang involvement were present in all four domains, the influence of the respective domains was unequal. For example, school-related risk factors, for the most part, were not significantly associated with gang involvement. While some prior research has shown that low commitment to school and low academic achievement is related to gang joining (24, 26), our findings are consistent with a larger body of research that has shown the relationship not to be significant (52) or have determined the relationship to be inconclusive (53, 54).

Our analyses indicated that two community risk factors were associated with gang joining. Perceived availability of handguns was found to be significantly associated with former and current gang membership. The fact that former and current gang members were more likely to report perceived availability of handguns in their communities is not surprising. Prior research has shown that gang members are more likely than non-gang members to possess and to use guns and that their peers are more likely to possess and use handguns. This might account for why gang members perceived handguns to be more widely available than non-gang members in our

[15] One reason for Ohene et al.'s higher gang member prevalence rates might be that their research included school youth from Jamaica, who comprised 60% of their sample (8, 9). While there has been little systematic research on the topic, Jamaica is believed to have one of the worst gang problems in the Western Hemisphere (10).

sample.[16] Alternatively, a large body of research indicates that a sizable proportion of gang members joined their gang for protection (21, 55, 56). In communities with a high number of handguns, youths may join gangs out of fear.

Additionally, youth who lived in neighborhoods that were at high risk for mobility were significantly more likely to report being former gang members. A key tenet of social disorganization theory is that communities characterized by high levels of mobility are also characterized by lower levels of informal social control because of their reduced capacity to develop social cohesion and mutual trust among residents. Thus, gangs and violence are more likely to emerge in communities with high levels of mobility because the values and norms that are essential for informal social control at the neighborhood level are missing (57-59).

We also found that few of the family risk factors were associated with gang joining. The only risk factor within the family domain that was significantly associated with gang status was that youth who associated with gang members were significantly more likely to report having parents with attitudes that favored anti-social behavior. It might be that youth with parents who favor anti-social behavior face fewer parental consequences for developing friendship networks with troublesome youth such as gang members. Related, while parental supervision has frequently been found to be associated with gang status in prior research (24, 26, 29, 30), it was not significantly related to gang joining among our sample of youth in Trinidad. A recent review of the literature on risk behaviors among Caribbean youth showed that few studies have

[16] As one anonymous reviewer pointed out, the relationship between perceived availability of guns and gang involvement may, in fact, be the result of gang members being more likely to carry a gun. While we cannot answer this question in the current examination, the authors feel that future research should examine this relationship further.

examined the relationship between parental supervision and risky behavior, and the few that have, have not found the relationship to be significant (60).[17]

Peer-individual risk factors were more likely than risk factors in other domains to be associated with gang status. Specifically, we found a robust relationship between gang status and early initiation of antisocial behavior, intention to use drugs, having antisocial peers, and having peers who use drugs. Our findings are consistent with prior longitudinal and cross-sectional research, which has repeatedly shown that youth who engage in delinquency and drug use, or who intend to engage in such behavior, are significantly more likely to join a gang than youth who do not engage in those behaviors (21, 26, 30). Likewise, this body of research has repeatedly demonstrated that gang joining is strongly associated with having delinquent peer networks and negative peer influences, net of other risk and protective factors; and that peer influences exert a much stronger influence on gang joining than family, community, and school factors. As a consequence, our analysis, combined with research conducted in other nations, suggests that the influence of the peer-individual domain on gang joining is strong.

Another major finding of the present study was that some protective factors were associated with gang status, but not always in the hypothesized direction. Our analyses indicated that in general those with social skills, belief in moral order, and who had interaction with pro-social peers were significantly less likely to have self-reported being a current or former gang member. Of particular interest was our finding that rewards and opportunities for prosocial involvement were significantly related to gang involvement. Gang associates were significantly more likely than non-gang members to self-report living in communities with rewards for prosocial involvement. Former gang members, when contrasted to non-gang members, were

[17] The authors reported that for substance abuse, risky sexual behavior, teenage pregnancy, STI's and HIV/AIDS, mental health, violence and delinquency, and eating disorders and obesity, only risky sexual behavior was mentioned as being associated with low parental supervision in the Caribbean.

significantly more likely to report having more family opportunities for prosocial involvement and to be rewarded by their peers for pro-social involvement. Current gang members were also significantly more likely than non-gang members to have opportunities for prosocial involvement in their schools. To help interpret these findings, a small, but important body of literature suggests that some group-based activity can increase participation in gangs (21). In particular, over the last three decades several prevention and social intervention programs have relied on programming that attempts to steer at-risk youth away from delinquency, crime, and gangs by encouraging them to pursue more socially acceptable activities such as sports teams, club activities, and other pro-social group based events. While most of the research examining these strategies found that they were ineffective in reducing gang membership as well as gang crime (60- 63), some of this research demonstrated that these programs lead to an increase in gang membership and gang violence (64, 65).

While our data do not allow us to examine the underlying causal mechanisms at play, it might be that at-risk youth cluster toward group activities in Trinidad, which in turn has a "peer contagion effect." Peer contagion is believed to operate through a process of socialization whereby delinquent youth co-opt at-risk youth through verbal and non-verbal communication (66, 67). Peer contagion effects have been linked to drug and alcohol use, delinquency, violence, and gang joining (67-70). It might be that at-risk youth who participate in group-based activities in Trinidad increase their chances for joining a gang.

Last, we found that the probability of gang association increased for youth as the number of risk factors increased. Current gang members were disproportionately in the highest cumulative risk category; next were former gang members, followed by gang associates and those never in a gang. Our findings are consistent with prior research that reported that exposure

to multiple risk factors regardless of the domain were associated with negative health outcomes such as depression and substance use (46). Although not often discussed in the literature, we also found that exposure to multiple risk factors did not necessarily mean that a youth would be gang-involved. In fact, more than half of youth who reported the presence of a high number of risk factors were not involved in a gang. This finding indicates that the influence of risk factors on gang joining can be mediated, and that some protective factors can inoculate youth against gang involvement.

Study limitations

Before the interpretation of the findings is complete, four limitations must be noted. First, the findings should not be generalized to other countries in the Caribbean or proximate nations. Numerous studies have demonstrated that every community's gang problem is unique and might be dissimilar to the problem in other communities (6). Second, the present study relied on a cross-sectional research design using measures of risk and protective factors shown in prior research to predict gang membership, delinquency, and drug use; however, the results should not be interpreted as implying causality. The cross-section design employed in the present study does not permit us to make statements about the existence or direction of the factors that lead to gang involvement, only that particular factors were or were not associated with gang involvement. Third, the present study employs the risk and protective factor paradigm that has been characterized by some academics as limited. Specifically, the paradigm has been criticized for its over emphasis of proximate individual factors and its under emphasis of social and structural factors (71). Fourth, the study may suffer from sample selection bias. The use of a high risk public school sample may have necessarily confined the variability of respondent's exposure to some risk and protective factors, particularly in the school domain. Related, our

prevalence estimates of gang membership might be under-estimating the scope and nature of the problem because gang members might be less likely to enroll in and attend school. Some prior research has shown that increased gang activity is related to lower academic resilience (72).

Conclusions

To the authors' knowledge, this is the first study in the Caribbean to examine risk and protective factors associated with gang membership among a sample of public school youth. The survey instrument contained 238 items that measured 30 risk factors and 13 protective factors, within four domains: community, school, family, and peer/individual. Analysis from the present study yielded three major findings. First, gang prevalence among Trinidadian school youth is similar to rates found in the United States and Europe, but lower than previous estimates in the Caribbean. Second, although risk factors associated with gang involvement were present in all four domains, peer-individual risk factors were disproportionately likely to be associated with gang status. Third, the probability of being gang involved increased with the accumulation of risk factors and decreased with the accumulation of protective factors.

Research recommendations and policy implications

Despite its limitations, the present study has several implications for policy and future research. Researchers in the near future should conduct comparative research between nations using a similar methodology to further understand the scope and nature of gang problems, and their contribution to public health problems such as violence and drug use. It is important to understand whether predictors of gang phenomena are universal regardless of economic, political, and other macro level forces, and whether current theoretical propositions for understanding gangs hold across national boundaries. Such an approach would enable

researchers and policymakers to better understand similarities and differences in gang problems for the purpose of designing responses that would be effective across geo-political boundaries.

Additionally, our findings, coupled with prior research, suggest that focusing on multiple risk factors might assist practitioners with identifying youth who are at particularly high risk for gang joining, and provide them with a framework for building gang prevention programming. This strategy is currently being employed by the City of Los Angeles. Approximately a dozen Los Angeles neighborhoods characterized by community risk factors (i.e., social disorganization, high mobility, etc) associated with gang joining were first identified. Next, youth (and their families) who were exposed to a high number of risk factors associated with gang membership were then identified (through self-report surveys) and recruited for gang prevention programming (73). While the program in Los Angeles is the largest of its kind, and has yet to be evaluated, prior research suggests that gang prevention policies and programs that focus on a number of risk and protective factors will be the most successful in terms of preventing youth from becoming gang members (74). However, additional research examining the association between gang status and risk and protective factors is needed in the Caribbean prior to similar programming being implemented in the region. In this regard, it would be beneficial for researchers across the Caribbean to collaborate on a regionally-based longitudinal study of youth to help better understand the health risks faced by Caribbean youth so that governments and social service agencies may respond more effectively.

Last, the current study found that some prosocial group based activities that have traditionally been viewed as protective might in fact increase the likelihood of gang joining in the Caribbean. Future research in the Caribbean should focus on the social mechanisms through which specific risk and protective factors function for gang involvement in general, and should

further examine the effect of peer contagion on gang joining in particular. If our findings are replicated in the future they suggest that policymakers should consider increasing the availability of individual goal oriented programming, and minimizing peer relationship, group-based exercises as part of gang prevention efforts.

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Table 1: Risk and Protective Factor Descriptive Statistics

Domains and Scales	Items	Range	Mean	Standard Deviation	Cronbach's Alpha
Risk Factors					
Community					
Low neighborhood attachment	2	1-4	2.084	0.988	0.612
High community disorganization	5	1-4	1.981	0.683	0.685
Mobility	1	1-3	1.393	0.795	NA
Laws and norms favorable to drugs	5	1-4	2.512	0.711	0.709
Perceived availability of handguns	1	1-4	1.949	1.244	NA
Perceived availability of drugs	2	1-4	2.469	1.144	0.741
School					
Academic failure	1	1-4	2.101	0.568	NA
Low commitment to school	7	1-5	1.864	0.518	0.627
Family					
Family history of antisocial behavior	8	1-5	2.647	1.025	0.773
Poor family management	8	1-4	1.971	0.696	0.787
Family conflict	3	1-4	2.448	0.878	0.676
Parental attitudes favorable towards drug use	1	1-4	1.079	0.360	NA
Parental attitudes favorable towards alcohol use	1	1-4	1.552	0.874	NA
Parental attitudes favorable towards antisocial behavior	3	1-4	1.375	0.514	0.644
Peer-individual					
Rebelliousness	3	1-4	1.888	0.833	0.726
Early initiation of antisocial behavior	1	0-8	1.419	2.475	NA
Early initiation of drug use	1	0-8	0.560	1.782	NA
Early initiation of alcohol use	2	0-8	2.869	2.270	0.608
Attitudes favorable to antisocial behavior	5	1-4	1.405	0.493	0.747
Attitudes favorable to drug use	1	1-4	1.268	0.661	NA
Attitudes favorable to alcohol use	1	1-4	1.749	0.943	NA
Intention to use drugs	1	1-4	1.198	0.571	NA
Intention to use alcohol	1	1-4	2.202	1.087	NA
Perceived risk of drug use	3	1-4	1.839	0.838	0.750
Antisocial peers	6	0-4	0.413	0.565	0.650
Peers use drugs	1	0-4	0.633	1.241	NA
Peers use alcohol	1	0-4	1.496	1.612	NA
Rewards for antisocial involvement	3	1-5	1.961	1.190	0.818
Depression	4	1-4	2.268	0.833	0.841
Sensation seeking	3	1-6	2.566	1.174	0.521
Protective Factors					
Community					
Opportunities for prosocial involvement	3	1-4	2.779	1.238	0.641
Rewards for prosocial involvement	3	1-4	2.635	0.963	0.769
School					
Opportunities for prosocial involvement	5	1-4	2.861	0.712	0.722
Rewards for prosocial involvement	4	1-4	2.782	0.766	0.708
Family					
Family attachment	4	1-4	2.685	0.822	0.700
Opportunities for prosocial involvement	3	1-4	2.745	0.897	0.714
Rewards for prosocial involvement	4	1-4	2.806	0.730	0.644
Peer-individual					
Religiosity	1	1-4	2.857	1.043	NA
Social skills	4	1-4	3.050	0.638	0.524
Belief in the moral order	4	1-4	3.198	0.633	0.770
Prosocial involvement	1	0-7	2.464	2.274	NA
Rewards for prosocial involvement	1	1-5	2.791	1.355	NA
Interaction with prosocial peers	5	0-4	2.480	0.931	0.549

average alpha = .691

Table 2: Bivariate Analysis of Gang Involvement by Select Demographic Characteristics

	Never	Gang associate	Former member	Current member	Total
	Percent	Percent	Percent	Percent	N
Gender*					
Female	85.3	5.8	4.5	4.4	1,314
Male	70.6	10.4	10.1	8.9	892
Ethnicity					
African	80.0	8.0	5.6	6.4	909
East Indian	82.1	5.8	6.4	5.8	502
Afro/Indian	77.7	7.4	10.4	4.5	337
Other	76.4	9.2	6.8	7.6	458
Age *					
Mean	15.3	15.4	15.7	15.4	NA
Standard Deviation	1.05	1.08	1.06	1.05	NA
Total	79.4	7.7	6.8	6.2	2,206

* p<.01

Table 3: Multivariate Analysis of Risk and Protective Factors Associated with Gang Status [a]

	Gang Associate (n=169)		Former Gang Member (n= 149)		Current Gang Member (n = 137)	
	OR	95% CI	OR	95% CI	OR	95% CI
Risk Factors						
Community domain						
Mobility	1.106	0.687, 1.781	1.782**	1.254, 2.533	1.012	0.634, 1.616
Perceived availability of handguns	1.230	0.733, 2.062	2.864**	2.125, 3.860	2.530**	1.606, 3.984
School domain						
Low commitment to school	1.044	0.717, 1.519	0.611*	0.382, 0.979	0.872	0.506, 1.501
Family domain						
Parental attitudes favorable towards antisocial behavior	1.452*	1.010, 2.086	1.272	0.644, 2.513	0.948	0.595, 1.512
Peer-individual domain						
Early initiation of antisocial behavior	1.149	0.780, 1.690	2.828**	1.961, 4.077	1.717*	1.083, 2.721
Intention to use drugs	1.170	0.774, 1.765	1.924**	1.202, 3.078	3.163**	2.032, 4.923
Antisocial peers	6.255**	4.300, 9.098	1.195	0.676, 2.114	2.328**	1.466, 3.695
Peers use drugs	2.767**	1.664, 4.598	1.146	0.778, 1.688	1.638*	1.042, 2.575
Peers use alcohol	1.745**	1.207, 2.519	0.882	0.660, 1.180	1.181	0.752, 1.853
Protective Factors						
Community domain						
Rewards for prosocial involvement	1.697*	1.057, 2.723	0.947	0.655, 1.369	1.063	0.706, 1.601
School domain						
Opportunities for prosocial involvement	1.443	0.793, 2.622	0.854	0.518, 1.410	1.921*	1.050, 3.513
Family domain						
Opportunities for prosocial involvement	1.495	0.904, 2.470	1.535*	1.036, 2.275	0.807	0.440, 1.482
Peer-individual domain						
Social skills	1.017	0.708, 1.459	0.442**	0.247, 0.790	0.448*	0.228, 0.879
Belief in the moral order	0.672	0.448, 1.008	0.716	0.406, 1.263	0.617*	0.388, 0.980
Rewards for prosocial involvement	0.753	0.474, 1.194	1.584*	1.034, 2.426	1.161	0.762, 1.77
Interaction with prosocial peers	1.074	0.687, 1.677	0.491**	0.302, 0.798	0.922	0.574, 1.481
Model chi-square (df)			753.02** (129)			
McFadden R^2			0.232			
Nagelkerke R^2			0.376			
Total N			2206			

Note: The base category is Never been in a gang.
Total N = 2206.
***** p<.05; ** p<.01 (based on robust standard error for clustering on school)
[a] Risk and protective factors not presented in this table were found to be not significantly related to gang status, but were controlled for in this model. Those interested in the full table should contact the lead author.

Table 4: Bivariate Analysis of Accumulation of Risk and Protective Factors by Gang Involvement

	Never		Gang associate		Former member		Current member	
	Col %	Row %	Col %	Row %	Col %	Row %	Col %	Row %
Number of elevated risk factors*								
0 to 4	21.9	97.7	3.0	1.3	2.0	0.8	0.7	0.3
5 to 8	29.2	90.1	15.4	4.6	11.4	3.0	9.5	2.3
9 to 12	24.7	81.8	24.3	7.8	19.5	5.5	19.0	4.9
13 to 16	16.1	68.3	32.5	13.3	24.8	9.0	28.5	9.4
17 or more	8.1	46.6	24.9	13.8	42.3	20.7	42.3	19.0
Number of elevated protective factors**								
0 to 2	13.0	78.8	11.2	6.6	15.4	8.0	13.9	6.6
3 to 4	24.0	72.3	32.0	9.3	37.6	9.6	37.2	8.8
5 to 6	27.8	78.8	29.6	8.1	25.5	6.2	31.4	7.0
7 to 8	20.2	83.5	18.3	7.3	14.8	5.2	12.4	4.0
9 or more	15.0	89.2	8.9	5.1	6.7	3.4	5.1	2.4

* Chi-square = 382.643, p< .001
** Chi-square =44.913, p< .001

Appendix A: Item Dictionary

SCALES AND QUESTIONS	RESPONSE CATEGORIES
COMMUNITY: Low Neighborhood Attachment	
How much do each of the following statements describe your neighborhood:	
I like my neighborhood.	NO!; no; yes; YES!
If I had to move, I would miss the neighborhood I now live in.	same as above
COMMUNITY: Community Disorganization	
How much does each of the following statements describe your neighborhood:	
Crime and/or drug selling	NO!; no; yes; YES!
Fights	same as above
Lots of empty or abandoned buildings	same as above
Lots of graffiti	same as above
I feel safe in my neighborhood	same as above
COMMUNITY: Mobility	
Have you changed homes in the past year (the last 12 months)?	No; Yes
COMMUNITY: Laws and Norms Favorable to Drug Use	
How wrong would most adults (over 21) in your neighborhood think it is for young people your age to:	
To use marijuana	Very wrong; Wrong; A little bit wrong; Not wrong at all
To drink alcohol	same as above
If a kid drank some beer, wine, or hard liquor (for example vodka, whisky, or gin) in your neighborhood, would he or she be caught by the police?	NO!; no; yes; YES!
If a kid smoked marijuana in your neighborhood would he or she be caught by the police?	NO!; no; yes; YES!
If a kid carried a handgun in your neighborhood would he or she be caught by the police?	NO!; no; yes; YES!
COMMUNITY: Perceived Availability of Handguns	
If you want to, how easy would it be for you to get the following:	
A handgun	Very hard; Sort of hard; Sort of easy; Very easy
COMMUNITY: Perceived Availability of Drugs	
If you want to, how easy would it be for you to get the following:	
Some beer, wine or hard liquor (for example, vodka, whiskey, or gin)	Very hard; Sort of hard; Sort of easy; Very easy
Some marijuana	same as above
COMMUNITY: Opportunities for Prosocial Involvement	
Are sports activities for people your age available in your community?	No; Yes
Are club activities for people your age available in your community?	No; Yes
COMMUNITY: Rewards for Prosocial Involvement	
My neighbors notice when I am doing a good job and let me know about it.	NO!; no; yes; YES!
There are people in my neighborhood who encourage me to do my best.	same as above
There are people in my neighborhood who are proud of me when I do something well.	same as above
SCHOOL: Academic Failure	
Putting them all together, what were your grades like last year?	Mostly 29 & below; Mostly 30-39; Mostly 40-59; Mostly 60-79; Mostly 80-100
SCHOOL: Low Commitment to School	
How interesting are most of your subjects to you?	Very interesting and stimulating; Quite interesting; Fairly interesting; Slightly dull; Very dull
How important do you think the things you are learning in school are going to be for your later life?	Very important; Quite important; Fairly important; Slightly important; Not at all important
During the LAST FOUR WEEKS ho many whole days of school have you missed because you skipped class?	None; 1; 2; 3; 4-5; 6-10; 11+
Now thinking back over the past year in school, how often did you:	
How often do you feel that the school work you are assigned is meaningful and important?	Never; Seldom; Sometimes; Often; Almost Always
Enjoy being in school?	same as above
Hate being in school?	same as above
Try to do your best work in school?	same as above

SCHOOL: Opportunities for Prosocial Involvement	
In my school, students have lots of chances to help decide things like class activities and rules.	NO!; no; yes; YES!
There are lots of chances for students in my school to talk with a teacher one on one.	same as above
Teachers ask me to work on special classroom projects.	same as above
There are lots of chances for students in my school to get involved in sports, clubs, and other school activities outside of class.	same as above
I have lots of chances to be part of class discussions or activities.	same as above
SCHOOL: Rewards for Prosocial Involvement	
My teacher's notices when I am doing a good job and lets me know about it.	NO!; no; yes; YES!
The school lets my parents know when I have done something well.	same as above
I feel safe at my school.	same as above
My teachers praise me when I work hard in school.	same as above
FAMILY: Family History of Antisocial Behavior	
Have any of your brothers or sisters ever:	
Drank beer, wine or hard liquor (for example vodka, whiskey, or gin)?	No; Yes; I don't have any brothers or sisters
Smoked marijuana?	same as above
Taken a handgun to school?	same as above
Been suspended or expelled from school?	same as above
About how many adults (over 21) have you known personally who in the past year have:	
Used marijuana, crack, cocaine, or other drugs?	0; 1; 2; 3-4; 5+
Sold or dealt drugs?	same as above
Done other things that could get them in trouble with the police, like stealing, selling stolen goods, mugging, or assaulting others, etc?	same as above
Gotten drunk or high?	same as above
FAMILY: Poor Family Management	
My parents ask if I've done my homework.	NO!; no; yes; YES!
Would your parents know if you did not come home on time?	same as above
When I am not at home, one of my parents knows where I am and who I am with.	same as above
The rules in my family are clear.	same as above
My family has clear rules about alcohol and drug use.	same as above
If you drank some beer, wine, or hard liquor (for example vodka, whisky, or gin) without your parents' permission, would you be caught by your parents?	same as above
If you skipped school would you be caught by your parents?	same as above
If you carried a handgun without your parents' permission, would you be caught by your parents?	same as above
FAMILY: Family Conflict	
People in my family often insult or yell at each other.	NO!; no; yes; YES!
People in my family have serious arguments.	same as above
We argue about the same things in my family over and over.	same as above
FAMILY: Parental Attitudes Favorable Towards Drug Use	
How wrong do your parents feel it would be for YOU to:	
Smoke marijuana?	same as above
FAMILY: Parental Attitudes Favorable Towards Alcohol Use	
How wrong do your parents feel it would be for YOU to:	
Drink beer, wine, or hard liquor (for example vodka, whiskey, or gin) regularly?	Very wrong; Wrong; A little bit wrong; Not wrong at all
FAMILY: Parental Attitudes Favorable to Antisocial Behavior	
How wrong do your parents feel it would be for YOU to:	
Steal something worth more than $30?	Very wrong; Wrong; A little bit wrong; Not wrong at all
Draw graffiti, write things, or draw pictures on buildings or other property (without the owner's permission)?	same as above
Pick a fight with someone?	same as above
FAMILY: Attachment	
Do you feel very close to your mother?	NO!; no; yes; YES!
Do you share your thoughts and feelings with your mother?	same as above
Do you feel very close to your father?	same as above
Do you share your thoughts and feelings with your father?	same as above

FAMILY: Opportunities for Prosocial Involvement	
My parents give me lots of chances to do fun things with them.	NO!; no; yes; YES!
My parents ask me what I think before most family decisions affecting me are made.	same as above
If I had a personal problem I could ask my mother or father for help	same as above
FAMILY: Rewards for Prosocial Involvement	
My parents (or those who you consider to be your parents) notice when I am doing a good job and let me know about it.	Never or almost never; Sometimes; Often; All of the time
How often do your parents tell you they're proud of you for something you've done?	same as above
Do you enjoy spending time with your mother?	NO!; no; yes; YES!
Do you enjoy spending time with your father?	same as above
PEER-INDIVIDUAL: Rebelliousness	
I do the opposite of what people tell me, just to get them mad.	Very False; Somewhat False; Somewhat True; Very True
I ignore the rules that get in my way.	same as above
I like to see how much I can get away with.	same as above
PEER-INDIVIDUAL: Early Initiation of Antisocial Behavior	
How old were you when you first:	
Attacked someone with the intention of seriously hurting them?	Never; 10 or younger; 11; 12; 13; 14; 15; 16; 17 or older
PEER-INDIVIDUAL: Early Initiation of Drug Use	
How old were you when you first:	
Smoked marijuana?	Never; 10 or younger; 11; 12; 13; 14; 15; 16; 17 or older
PEER-INDIVIDUAL: Early Initiation of Alcohol Use	
How old were you when you first:	
Had more than a sip or two of beer, wine, or hard liquor?	Never; 10 or younger; 11; 12; 13; 14; 15; 16; 17 or older
Began drinking alcoholic beverages once or twice a month?	same as above
PEER-INDIVIDUAL: Attitudes Favorable to Antisocial Behavior	
How wrong do you think it is for someone your age to:	
Take a handgun to school?	Very wrong; Wrong; A little bit wrong; Not wrong at all
Steal anything worth more than $30?	same as above
Pick a fight with someone?	same as above
Attack someone with the intention of seriously hurting them?	same as above
Stay away from school all day when their parents think they are at school?	same as above
PEER-INDIVIDUAL: Attitudes Favorable to Drug Use	
How wrong do you think it is for someone your age to:	
Smoke marijuana?	Very wrong; Wrong; A little bit wrong; Not wrong at all
PEER-INDIVIDUAL: Attitudes Favorable to Alcohol Use	
How wrong do you think it is for someone your age to:	
Drink beer, wine or hard liquor regularly?	Very wrong; Wrong; A little bit wrong; Not wrong at all
PEER-INDIVIDUAL: Intentions to Use Drugs	
When I am an adult I will:	
Smoke marijuana	NO!; no; yes; YES!
PEER-INDIVIDUAL: Intentions to Use Alcohol	
When I am an adult I will:	
Drink beer, wine or liquor	NO!; no; yes; YES!
PEER-INDIVIDUAL: Perceived Risks of Drug Use	
How much do you think people risk harming themselves (physically or in other ways) if they:	
Try marijuana once or twice	No risk; Slight risk; Moderate risk; Great risk
Smoke marijuana regularly	same as above
Take one or two drinks of an alcoholic beverage nearly every day	same as above
PEER-INDIVIDUAL: Antisocial Peers	
Think of your four best friends (the friends you feel closest to). In the past year (12 months), how many of your best friends have:	
Been suspended from school?	0; 1; 2; 3; 4
Carried a handgun?	same as above
Sold illegal drugs?	same as above
Stolen or tried to steal a motor vehicle such as a car or motorcycle?	same as above
Been arrested?	same as above
Dropped out of school?	same as above

PEER-INDIVIDUAL: Peers Use Drugs	
Think of your four best friends (the friends you feel closest to). In the past year (12 months), how many of your best friends have:	
Used marijuana?	0; 1; 2; 3; 4
PEER-INDIVIDUAL: Peers Use Alcohol	
Think of your four best friends (the friends you feel closest to). In the past year (12 months), how many of your best friends have:	
Tried beer, wine, or hard liquor when their parents didn't know about it	0; 1; 2; 3; 4
PEER-INDIVIDUAL: Rewards for Antisocial Involvement	
What are the chances you would be seen as popular if you:	
Began drinking alcoholic beverages regularly, what is at least once or twice a month?	No or very little chance; Little chance; Some chance; Pretty good chance; Very good chance
Smoked marijuana?	same as above
Carried a handgun?	same as above
PEER-INDIVIDUAL: Depression	
Sometimes I think that life is not worth living	NO!; no; yes; YES!
At times I think I am not good at all.	same as above
All in all, I am inclined to think that I am a failure.	same as above
In the past year, have you felt depressed or sad MOST days, even if you felt okay sometimes?	same as above
PEER-INDIVIDUAL: Sensation Seeking	
How many times have you done the following things:	
Done what feels good no matter what.	Never; Yes, but not in the past year; Less than once a month; About once a month; Two or three times a month; Once a week or more
Done something dangerous because someone dared you to do it.	same as above
Done crazy things even if they are a little dangerous.	same as above
PEER-INDIVIDUAL: Religiosity	
How often do you attend religious services or activities?	Never; Rarely; 1-2 times a month; About once a week or more
PEER-INDIVIDUAL: Social Skills	
You're looking at CD's in a music store with a friend. You look up and see her slip a CD into her bag. She smiles an says "Which one do you want? Go ahead, take it while nobody's around." There is nobody in sight, no employees, and no other customers. What would you do now?	Ignore her; Grab a CD and leave the store; Tell her to put the CD back; Act like it is a joke, and ask her to put the CD back
It's 8:00 on a weeknight and you are about to go over to a friend's home when your mother asks you where you are going. You say "To lime with some friends." She says "No, you'll just get into trouble if you go out. Stay home tonight." What would you do now?	Leave the house anyway; Explain what you are going to do with your friends, tell her when you will get home, and ask if you can go out; Not say anything and start watching TV; Get in to an argument with her
You are visiting another part of the country, and you don't know any of the people you are there. You are walking down the street, and some teenager you don't know is walking toward you. He is about your size and as he is about to pass you, he deliberately bumps into you and you almost lose your balance. What would you say or do?	Push the person back; Say "Excuse me" and keep on walking; Say "Watch where you are going" and keep walking; Swear at the person and walk away
You are at a party at someone's house, and one of your friends offers you a drink containing alcohol. What would you do?	Drink it; Tell you friend "No, thanks, I don't drink" an suggest that you and your friend go and do something else; Jus say "No thanks" and walk away; Make up a good excuse, tell your friend you had something else to do, and leave
PEER-INDIVIDUAL: Belief in Moral Order	
I think it is okay to take something without asking if you can get away with it.	NO!; no; yes; YES!
I think sometimes it's okay to cheat at school.	same as above
It is all right to beat up people if they start the fight.	same as above
It is important to be honest with your parents, even if they become upset or you get punished.	same as above
PEER-INDIVIDUAL: Prosocial Involvement	
How many times in the PAST YEAR (12 months) have you:	
Done extra work on your own for school?	Never; 1-2; 3-5; 6-9; 10-19; 20-29; 30-39; 40+
PEER-INDIVIDUAL: Rewards for Prosocial Involvement	
What are the chances you would be seen as popular if you:	
Defended someone who was being verbally abused at school?	No or very little chance; Little chance; Some chance; Pretty good chance; Very good chance
PEER-INDIVIDUAL: Interaction with Prosocial Peers	
Think of your four best friends (the friends you feel closest to). In the past year (12 months), how many of your best friends have:	
Participated in clubs, organizations and activities at school?	0; 1; 2; 3; 4
Made the commitment to stay drug-free?	same as above
Tried to do well in school?	same as above
Liked school?	same as above
Regularly attended religious services?	same as above