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Multiple marginality and the variation in delinquency and substance use among adolescent gang members

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Abstract

Background: Gang membership is a significant contributor to delinquency and violent victimization among adolescents. Yet, there is considerable variability in the extent to which gang members engage in delinquency and substance use, and previous research suggests factors beyond the individual level are important to consider.

Objectives: Using the multiple marginality framework, this study examines the factors related to the family, school, and neighborhood contexts that may contribute to delinquency and substance use among current gang members.

Methods: Between 2013 and 2015, we conducted quantitative surveys with 449 self-identified gang members between the ages of 14 and 19 years old in Milwaukee, Wisconsin. Surveys included measures to assess delinquency, substance use, parental involvement, educational attainment, drug distribution, and police involvement. We ran simple and multiple regressions to assess the relationship between family, school, and neighborhood factors and delinquency and substance use.

Results: Regression analyses revealed several significant predictors of delinquency and substance use among adolescent gang members including parental substance use and incarceration, school safety, police contact, and neighborhood disorder.

Conclusions: Family and school factors are likely important protective factors against delinquency and substance use among gang members. Interventions at the family and community level may be particularly important in reducing poor health and social outcomes for adolescent gang members.

Keywords

Gangs; Delinquency; Parenting; Neighborhood Context

It is well-established that youth gang members disproportionately contribute to violent and serious crimes (Chu, Daffern, Thomas, & Lim, 2012; Krohn & Thornberry, 2008), and are more likely than other adolescents to participate in violent and delinquent behavior and be arrested (Dong & Krohn, 2016). Although adverse consequences associated with gang membership are greatest during active gang membership, early delinquency predicts long-term deleterious effects throughout the life course (Thornberry, 2003). These consequences include failure to complete school, unemployment in early adult life, job instability, and ongoing participation in illegal activity (Krohn & Thornberry, 2008; Melde & Esbensen, 2011). Despite high rates of victimization and delinquency among youth gang members (Egley Jr, Howell, & Harris, 2014), the extent to which gang members engage in such activities varies (Howell, 2011), and the factors that influence gang members' participation in substance use and delinquency remain underexplored. Research has primarily examined factors that contribute to risk for joining gangs. In contrast, this study seeks to understand factors that contribute to substance use and delinquency among current gang members to allow for the tailoring of interventions for those already involved in gangs, which could ultimately help mitigate the harms associated with gang membership.

Delinquency and substance use among adolescent gang members

Gang members commit a disproportionately large share of crime among young people (Pyrooz, Turanovic, Decker, & Wu, 2016). For example, gang-affiliated youth are more likely to commit drug and weapon-related offenses compared to youth not involved in gangs (Klein & Maxson, 2010) and gang membership is associated with carrying a gun and committing assault (Bjerregaard, 2010). Gang members are also at an increased risk of both experiencing and perpetrating intimate partner violence and sexual coercion (DuPont-Reyes et al., 2014) and female adolescent gang members report heightened levels of intimate partner violence, rape, and gang rape (Nydegger, DiFranceisco, Quinn, & Dickson-Gomez, 2017; Wechsberg et al., 2015). Gang membership also has a strong association with substance use. Research has shown a positive relationship between onset of gang membership and increased use of alcohol, marijuana, and other hard drugs (Bjerregaard, 2010; R. A. Gordon et al., 2004). Female gang members, in particular, tend to initiate marijuana and alcohol use at an early age and use those substances more frequently than non-gang members (Wechsberg et al., 2015). Gang membership can also facilitate drug distribution, particularly among younger adolescents (Bjerregaard, 2010; Moloney, Hunt, & Joe-Laidler, 2015). Drug distribution among gang members may reflect the association between gang membership and neighborhood disadvantage, which suggests that gang members sell drugs because they have few legitimate economic opportunities (Bellair & McNulty, 2009; Dickson-Gomez et al., 2017).

Participation in illegal and delinquent activities has significant consequences for gang-involved youth. Youth gang members are at increased risk for negative police interactions

(Freng & Esbensen, 2007), arrest (Dong & Krohn, 2016) and, upon release from juvenile detention, gang members often recidivate sooner and more frequently than their non-gang counterparts (Caudill, 2010; Trulson, Marquart, Mullings, & Caeti, 2005). Although these behaviors may be more common among current gang members, they often have life-long consequences. Adults who were gang members as adolescents are more likely than those who had never joined a gang to report committing crimes and being incarcerated as an adult, receiving income from illegal sources, and suffering from alcohol and drug dependence or abuse (Gilman, Hill, & Hawkins, 2014).

In spite of the strong association between gang membership and delinquency (Esbensen, 2010; Pyrooz, 2013; Pyrooz, Turanovic, Decker, & Wu, 2016), gang membership is not inherently criminal (Pyrooz, 2013). Recent research has suggested that most youth gang members are not 'superpredators' (Dilulio, 1995), and there is considerable variability in offending among gang members (Howell, 2011). Data from the G.R.E.A.T. study based on cross-sectional data from 11 cities found that just 9% of youth reporting gang membership committed 36% of the violence (Esbensen, Osgood, Taylor, Peterson, & Freng, 2001). Additionally, the consequences of gang membership across the life course, including low educational achievement, unemployment and economic hardship, and sustained delinquency, are not universally experienced by all gang members (Dong & Krohn, 2016; Moore, 1991; Sanchez-Jankowski, 1991). Despite the strong associations between delinquency and gang membership (Bjerregaard, 2010), previous research has also indicated that the effects of gang membership on delinquency may not be ubiquitous (J. C. Barnes, Beaver, & Miller, 2010), and the factors that contribute to gang member delinquency are unclear. As such, it is important to consider the effect of other ecological factors on substance use and delinquency among current gang members.

Multiple marginality

In an effort to explain the social forces that contribute to gang membership among racial and ethnic minorities, Vigil (2002) introduced the idea of multiple marginality, which aims to address the ecological, economic, and sociocultural factors that underlie youth gang involvement (Vigil, 2002) and unpack the complex experiences of racial minority, disadvantaged youth. Black and Hispanic youth are disproportionately represented in gangs, which is largely thought to be a result of social, political, and institutional forces. The multiple marginality framework suggests that macrohistorical and macrostructural factors, including racism and oppression, contribute to strain, undermine social control and family bonds, and contribute to a reliance on peers and gangs to provide needed support (Krohn, Schmidt, Lizotte, & Baldwin, 2011; Vigil, 2002). Multiple marginality occurs when social and economic factors contribute to a 'street socialization,' wherein youth create gangs to provide socialization, belonging, and self-identity that are absent due to marginalization from mainstream institutions (Vigil, 2002; Vigil, 2003). Key constructs of multiple marginality include economic stressors, elements of social control, family factors, school factors, and interactions with police (Freng & Esbensen, 2007). Although originally used to understand Hispanic youth gangs, multiple marginality has been extended to African American gangs as well, and researchers have suggested that understanding the experiences

of gang members necessitates accounting for multiple layers of marginality and disadvantage they face (Freng & Esbensen, 2007).

Multiple marginality has been used to examine differences in delinquency between gang members and non-gang members in low-income communities (Conchas & Vigil, 2010) and has demonstrated support for predicting current gang membership (Freng & Esbensen, 2007). Multiple marginality may also be a particularly useful framework through which to examine substance use, delinquency, and protective factors among youth gang members (Krohn et al., 2011), as little research has examined how these social and community factors relate to delinquency among already gang-involved youth. For example, negative police interactions (e.g., racial profiling, unwanted searches) may reflect multiple marginality and contribute to variation in delinquency among gang members. The relationship between youth and the police, a formalized social control mechanism, are typically hostile in nature, further contributing to the marginalization of youth (Freng & Esbensen, 2007). Additionally, previous research has indicated that substance use and drug distribution patterns may similarly reflect multiple marginality. Drug distribution among youth can provide an immediate economic benefit to gang members, who often have few formal employment opportunities and need money to support themselves and their families (Dickson-Gomez et al., 2017). As such, informed by multiple marginality, we examined numerous family, school, and neighborhood factors to better understand the risk and protective factors associated with delinquency and substance use among adolescent gang members.

Family environment

First, given that multiple marginality theorizes that factors including poverty and oppression can undermine the family structure (Krohn et al., 2011; Vigil, 2002), we hypothesized that several family factors (i.e. family communication and monitoring, and parental investment) would be negatively associated with criminal involvement, delinquency, and substance use. Family poverty can limit family involvement, communication, and monitoring, as parents may be working multiple jobs or dealing with other stressors such as economic insecurity and substance use. We further hypothesized that family gang involvement, parental incarceration, and parental substance use would be positively associated with criminal involvement, delinquency, and substance use. Finally, limited research suggests parental monitoring (McDaniel, 2012), parental support (Lenzi et al., 2015), and parental involvement and family cohesiveness (Xiaoming Li et al., 2002) may protect youth against gang membership and general delinquency (Jain & Cohen, 2013). Accordingly, we hypothesized that parental monitoring may protect against delinquency and substance use among gang-involved youth.

School environment

Within the school context, multiple marginality highlights how multiple oppressions may isolate vulnerable youth from the education system, which may not be equipped to deal with youths' social and emotional needs, ultimately pushing them toward gang involvement (Freng & Esbensen, 2007). In general, gang-involved youth tend to be less connected to their school (Dishion, Nelson, & Yasui, 2005; Pyrooz, 2014), and youth perceptions of school as

unsafe can increase risk for joining gangs (Lenzi et al., 2015). As such, we hypothesized that enrollment in school, feeling safe at school, and being involved at school would be protective against criminal involvement, delinquency, and substance use.

Neighborhood and social environment

Finally, the social oppressions that affect family and education can reflect and influence neighborhood conditions. For example, the concentration of economic hardship and poverty in some neighborhoods can result in increases in neighborhood disorder and delinquency as well as strained resident-police relations. Exposure to community violence may influence youths' perceptions of violence as acceptable and appropriate behavior to solve problems (Quinn, Pacella, Dickson-Gomez, & Nydegger, 2017). The normalization of violence has been well-documented (Mrug, Madan, & Windle, 2016; Ng-Mak, Salzinger, Feldman, & Stueve, 2002), and can lead to an increased propensity for later violence, aggression, and deviant behavior (Fowler, Tompsett, Braciszewski, Jacques-Tiura, & Baltes, 2009; Hartinger-Saunders et al., 2011; Terr, 2003). Finally, police interactions are thought to contribute to youths' marginalization (Freng & Esbensen, 2007), although interactions between the police and gang members are relatively unexamined in the literature. Research has shown, however, that police interactions which youth deem to be unreasonable or unprovoked could have a damaging effect on adolescents (Friedman, Lurigio, Greenleaf, & Albertson, 2004; Nordberg, Crawford, Praetorius, & Hatcher, 2016). Thus, we hypothesized that collective monitoring would be protective against criminal involvement, delinquency, and substance use, while police interactions and neighborhood disorder would increase these outcomes.

Current study

Despite abundant research on the factors that lead youth to join gangs, this study acknowledges the variability in delinquency and substance use among current gang members and sought to understand factors that may contribute to or protect against delinquency among gang-involved youth. This study was informed by multiple marginality, which suggests that economic and social disadvantage can contribute to social marginalization, which, in turn, affects family structure, the role of education in youths' lives, and the social environment in which youth live (Krohn et al., 2011; Vigil, 2002). Accordingly, we examined factors related to the family, education, and neighborhood contexts to understand how these factors may influence the behavior of gang members. We hypothesized that parental monitoring, school enrollment, involvement, and safety, and collective monitoring would be protective against criminal involvement, delinquency, and substance use. We also hypothesized that police interactions and neighborhood disorder would be positively associated with these outcomes.

Methods

Setting

This study took place in Milwaukee, Wisconsin between 2013 and 2015. Milwaukee, like many Rust Belt cities, is plagued by myriad social and economic disparities and is among

the most racially segregated cities in America (Logan & Stults, 2011). In 2015, Milwaukee's homicides were concentrated in majority-Black zip codes in the central and northwest areas of the city with high concentrations of poverty (S. Gordon, 2016). The rate of incarceration for Black men in Wisconsin is the highest in the country and nearly double the national average. Additionally, in Milwaukee County, more than half of all Black men in their 30s and 40s have a history of incarceration (Pawasarat & Quinn, 2013). In 2016, there were 125 firearm-related homicides in Milwaukee, and the majority of victims were Black men between 18 and 40 years old (Milwaukee Journal Sentinel, 2017). High schools in Wisconsin suspend Black students at a higher rate than anywhere else in the country and Milwaukee suspends Black high school students at a rate nearly double the national average (Losen et al., 2015). Many traditional youth gangs in Milwaukee originated in the 1980s in the wake of the crack epidemic, unemployment, poverty, and industrial decline (Hagedorn et al., 1998) and continue to center around the drug trade (Cahill, 2008). Estimates from 2009 indicate there are 15 to 20 highly organized street gangs in the primarily Latino South side, and even more primarily African American gangs on the North side (Trevey, 2008).

Participants and procedures

Participant eligibility criteria were as follows: between age 14 and 19 years, English-speaking, a self-reported member of a gang in the city of Milwaukee, and able to provide informed consent or assent. Gangs were defined as 'any durable, street-oriented youth groups whose identity includes involvement in illegal activities' (Weerman et al., 2009) and participants self-identified as gang members, an approach that has been demonstrated to be a strong predictor of embeddedness in gangs (Decker, Pyrooz, Sweeten, & Moule Jr, 2014) and an effective measurement of gang status (Esbensen, Winfree Jr, He, & Taylor, 2001).

Recruitment methods

A combination of the following recruitment strategies were used: 1) two research assistants, an African American female and Latino male with experience working with community youth and active gang members, conducted community outreach and targeted sampling of gang members, and 2) current study participant referrals. The study's Community Advisory Board helped the research team identify neighborhoods and settings with known active gang members. Research assistants used direct street outreach recruitment methods at street festivals, parks, and other areas with known gang activity and worked closely with community organizations and schools to facilitate referrals. Participants who successfully completed the interview survey received two referral cards to aid in recruitment of other gang members and received a \$10 cash incentive for each additional referral. Prior to completing the survey, participants completed written informed consent (assent for youth under the age of 18). A waiver of parental consent was obtained for minors under the age of 18 to protect those whose parents may be unaware of gang involvement or unavailable to consent for their child. Ninety-minute audio computer-assisted self-interview (ACASI) surveys were conducted at various community organizations, social service organizations, and churches. Given the length of the survey, several breaks were built into the survey procedures. The survey included measures on neighborhood characteristics, mental health symptoms, sexual risk behaviors, self and family substance use, delinquency, police interactions, education history, and family life. All participants received a \$30 cash incentive

for their participation. The Institutional Review Board at [Blinded for review] approved all study procedures.

Measures

The factors examined in this research were influenced by multiple marginality, which suggests that disorganization and loss of formal and informal social institutions such as family, school, and law enforcement contributes to environments vulnerable to gang establishment (Freng & Esbensen, 2007). We hypothesized these same factors would contribute to delinquency and substance use among current gang members.

Demographic covariates.

Participants reported their sex, age, race, and ethnicity. Participants' race/ethnicity was coded as African American/Black, Latino, or other. In analyses, dummy variables indicated identification as Latino as well as identification as a race other than African American/Black; non-Latino African American/Black served as the reference race/ethnicity. As a proxy for socioeconomic status, participants responded to one item, modified from the Youth Responses to Stress Questionnaire, "How much do money or finances bother or stress you out in your day to day life?"; response options ranged from 1 (no stress at all) to 5 (extremely stressful). Participants also reported how long they had been a member of their gang in years and months (Connor-Smith, Compas, Wadsworth, Thomsen, & Saltzman, 2000).

Family environment.

Living with parents/guardians.—Participants reported whether they currently lived with a parent or guardian (0 = no, 1 = yes).

Family communication.—The family communications scale was adapted from the 10-item Open Family Communication Scale (Barnes & Olson, 1985). Participants responded to five items (e.g., "I have at least one parent or guardian who I can easily discuss problems with") on a scale from 1 (strongly disagree) to 5 (strongly agree). The scale was reliable ($\alpha = .96$) and items were averaged such that higher scores indicated more communication.

Family monitoring.—Parental monitoring was measured using five items developed by Silverberg and Small (Li, Stanton, & Feigelman, 2000). Items were measured on a scale from 1 (never) to 6 (almost all of the time) and included items such as, "How often do your parents or guardians try to know where you go at night?". If adolescents were no longer living with a parent or guardian, they were instructed to think about when they were growing up. The scale was reliable ($\alpha = .92$) and items were averaged such that higher scores indicated more monitoring.

Parental investment.—Participants responded to six items about the person they lived with who was most responsible for taking care of them as a child (e.g., "He or she did his or her best in trying to raise me right" and "He or she supported me in trying to get an education.") on a scale from 1 (strongly disagree) to 5 (strongly agree). The scale was

reliable ($\alpha = .93$) and items were averaged such that higher scores indicated more perceived investment.

Parent/guardian drug use.—Participants reported whether their mother, father, and/or guardian had ever used marijuana, crack, cocaine, heroin, benzodiazepines, or prescription pain killers in front of them. A composite variable indicated whether any parent/guardian had ever used any drug in front of the adolescent (0 = no, 1 = yes). Participants also reported whether their mother, father, and/or guardian had ever allowed them to use drugs or alcohol in front of them (0 = no, 1 = yes; Substance Abuse and Mental Health Services Administration, 2004).

Family gang involvement.—Participants reported whether their mother, father, guardian, brothers or sisters, aunts or uncles, cousins, nieces or nephews, or other family members had ever belonged to a gang. A count indicated the number of different types of family members who had belonged to a gang (0 to 8).

Parent/guardian incarceration.—Participants reported whether their mother, father, and/or guardian had been incarcerated. A composite variable indicated whether any parent/guardian had been incarcerated (0 = no, 1 = yes).

School environment.

We examined several school contextual factors, adapted from SAMHA's Communities that Care Youth Survey. (Substance Abuse and Mental Health Services Administration, 2004).

School enrollment.—Participants reported whether they were currently in school, and, if not, the reason why. A variable was created indicating whether adolescents were still enrolled or had graduated (0 = expelled or dropped out, 1 = still enrolled or graduated). Participants who were not currently in school, were asked to respond to the remaining questions about school based on the last year they attended school.

Perceived school safety.—Participants responded to one item: "I feel/felt safe at my school" (0 = no, 1 = yes).

School involvement.—Participants responded to three items addressing school enjoyment, effort, and importance (e.g., "Now, thinking back over the past year, or the last year you attended school, how often did you enjoy being in school?") on a scale from 1 (never) to 4 (almost always). They also reported how interesting they find/found their courses on a scale from 1 (very dull) to 5 (very interesting or stimulating), how important they think the things they learned/are learning in school are going to be on a scale from 1 (not at all important) to 5 (very important), and what their grades were like last year or the last year that they attended on a scale from 1 (mostly F's) to 5 (mostly A's). These items were rescaled such that they were all equally weighted. The scale was reliable ($\alpha = .86$) and items were averaged such that higher scores indicated more school involvement.

Neighborhood and social environment.

Collective monitoring.—Collective monitoring was measured using items adapted from Sampson et al.'s (1997) research on neighborhoods and violent crime (Sampson, Raudenbush, & Earls, 1997). Participants responded to four items (e.g., “How likely is it that adults in your neighborhood would intervene if children or teenagers were hanging out in the street?”) on a scale from 1 (very unlikely) to 4 (very likely). The scale was reliable ($\alpha = .77$) and items were averaged such that higher scores indicated more neighborhood collective monitoring.

Negative police interaction.—Participants reported whether they had ever experienced four types of interaction with the police: seeing the police search somebody they knew without cause, feeling the police had stopped and questioned them without cause, seeing the police beat or physically abuse someone they knew, and being beaten or physically abused by the police. Items were summed to create a count (from 0 to 4) of types of police interaction ($\alpha = .70$), with higher counts indicating more interaction with the police (Brodsky & Smitherman, 1983).

Neighborhood disorder.—The seven-item Neighborhood Risk measure (Jones, Forehand, Brody, & Armistead, 2002) was used to determine neighborhood disorder. Participants responded to questions on a scale from 1 (almost never) to 4 (almost always) and items included such as “How often are there shootings in your neighborhood?” and “How often does drug dealing occur in your neighborhood.” The scale was reliable ($\alpha = .81$) and items were averaged such that higher scores indicated more disordered neighborhoods.

Outcomes.

Substance use.—Participants indicated the number of times in the past two weeks that they had engaged in heavy episodic drinking (having five [four] or more alcoholic drinks in a row on the same day for boys [girls]) and the number of days in the last 30 that they had used marijuana. A dichotomous variable indicated whether participants had engaged in any hard drug use (using prescription cough syrup/lean, crack, cocaine, marijuana laced with cocaine or crack, heroin, ecstasy, amphetamines, hallucinogens, benzodiazepines, prescription opiates, or other drugs) in the past 30 days (0 = no, 1 = yes; Substance Abuse and Mental Health Services Administration, 2013).

Criminal involvement and delinquency.

Criminal involvement.—Participants reported whether they had ever been arrested or taken to jail, been convicted of a crime, and/or served time. Items were summed to create a count (from 0 to 3; $\alpha = .81$), with higher counts indicating more criminal involvement.

Delinquency.—Delinquency was measured with 7-items from the Communities that Care Youth Survey (Substance Abuse and Mental Health Services Administration, 2004), assessing delinquent behaviors in the past 12 months (e.g., “How many times in the past 12 months have you stolen or tried to steal a motor vehicle such as a car or motorcycle?”). Items were recoded to indicate whether a participant had at any time in the past year stolen a vehicle, stolen something other than a vehicle, been arrested, attacked someone with the idea

of seriously hurting them, robbed someone, or robbed a home or business (0 = no, 1 = yes). The scale was reliable ($\alpha = .78$) and items were summed to create a count of delinquent acts.

Drug distribution.—The measure of drug distribution was adapted from the Drug Distribution Roles measure (Sherman & Latkin, 2002), in which participants responded to ten items assessing their drug distribution roles in the past 6 months (e.g., “In the last 6 months, have you delivered drugs to a customer?”); all items were dichotomous (0 = no, 1 = yes). The scale was reliable ($\alpha = .92$) and items were summed such that higher scores indicated greater involvement in drug distribution.

Sexual violence.—Participants responded to two questions: “Have you ever had sex with someone when they said they didn’t want to?” and “Have you ever participated in a gang rape?” A composite variable indicated whether the participant had engaged in either behavior (0 = no, 1 = yes).

Analysis

Missing data.—Of the 461 participants who enrolled in the study, 3% ($n = 12$) were missing data on all key variables in the current study and were thus excluded from analyses. For participants included in the current investigation, 15% of data on key variables was missing. We used multiple imputation to replace missing values (Schafer, 1997). Multiple imputation avoids biases associated with using only complete cases or with single imputations (Schafer, 1997). We imputed 100 datasets (Graham, Olchowski, & Gilreath, 2007) in Mplus 7 (Muthen & Muthen, 2015). All study variables were included in the imputation. Analyses were conducted with all 100 datasets, and parameter estimates were pooled using the imputation algorithms in Mplus 7.

Primary analyses.—For our primary analyses, we first used simple Poisson, negative binomial, and logistic regressions to examine associations between each demographic or protective/risk factor and each outcome. We then included all demographic control variables and all protective/risk factors associated with outcomes at the $p < .10$ level in multiple regressions to determine which risk/protective factors had the strongest associations with outcomes. We report incident rate ratios (IRRs) and standard errors (SEs) for Poisson and negative binomial regressions; these can be interpreted as the increase in the expected count for each outcome with a 1-unit increase in the predictor variable. For logistic regressions, we report odds ratios (ORs) and SEs; these represent the increase in odds of experiencing the outcome with a 1-unit increase in the predictor variable. Analyses were performed in Mplus 7 (Muthen & Muthen, 2015) using a full information maximum likelihood estimator robust to non-normality (the MLR estimator; Muthén & Muthén, 2015). Participants could refer other participants to the study; we accounted for potential non-independence between participants and their referrers by adjusting standard errors with a sandwich estimator (Muthén & Muthén, 2013).

Results

Sample characteristics

Descriptive statistics for study variables are included in Table 1, and correlations between study predictors and outcomes are included in Table 2. The sample included 449 self-identified adolescent gang members with a mean age of 17.39 ($SD = 1.53$). Nearly two-thirds of the sample were male (58%), 60% identified as Black, and 28% were Latino/a. Participants reported being in their gang an average of 5 years, and 67% were either currently enrolled in school or had graduated from high school. Substance use was common; 44% reported hard drug use in the previous 30 days, and mean days of marijuana use in the past 30 was 12.9 ($SD = 13.15$).

Simple regressions

In simple regression analyses, there were relatively consistent associations between neighborhood, family, and school protective/risk factors and outcomes in the anticipated directions. Coefficients for these regressions are included in Table 3.

In terms of *family factors*, living with parents/guardians was associated with decreased heavy drinking and marijuana use. Higher levels of family communication were associated with decreased heavy drinking, while higher levels of family monitoring were associated with decreased delinquency, involvement in drug distribution, heavy drinking, and marijuana use. Higher parental investment was associated with lower levels of delinquency. Adolescents whose parents/guardians used drugs in front of them or whose parents allowed them to use substances reported higher levels of criminal involvement, delinquency, drug distribution, heavy drinking, and marijuana use, and were more likely to use hard drugs and to perpetrate sexual violence. Having more family members involved with gangs was associated with increased criminal involvement, involvement with drug distribution, heavy drinking, and marijuana use, and a higher likelihood of using hard drugs and perpetrating sexual violence. Finally, adolescents with parents/guardians who had been incarcerated reported greater criminal involvement, delinquency, involvement in drug distribution, heavy drinking, and marijuana use, and were more likely to use hard drugs and to perpetrate sexual violence.

In terms of *school factors*, adolescents who reported feeling safe at school reported less delinquency. Higher levels of school involvement were associated with decreased delinquency, involvement with drug distribution, heavy drinking, and marijuana use. Finally, in terms of *neighborhood factors*, reporting more collective monitoring in one's neighborhood was associated with decreased marijuana use. Having more types of police contact was associated with increased criminal involvement, delinquency, involvement in drug distribution, heavy drinking, marijuana use, and likelihood of hard drug use. Higher levels of neighborhood disorder were associated with increased delinquency, involvement in drug distribution, heavy drinking, marijuana use, and hard drug use.

Multiple regressions

Multiple regressions that controlled for demographic covariates and considered neighborhood, family, and school factors simultaneously continued to show the importance of protective/risk factors within all three social contexts (Table 4). In terms of *family factors*, increased family communication was associated with less frequent heavy drinking, $RR = 0.87 (0.05)$, $p < .05$. Increased family monitoring was associated with decreased marijuana use and involvement in drug distribution, $RR = 0.91 (0.04)$, $p < .05$ and $RR = 0.94 (0.03)$, $p < .05$, respectively. Increased parental investment was related to decreased delinquency, $RR = 0.94 (0.03)$, $p < .05$, and, contrary to expectations, increased marijuana use, $RR = 1.14 (0.06)$, $p < .01$. Adolescents whose parents used drugs in front of them were more likely to use hard drugs, $RR = 2.79 (0.95)$, $p < .01$, and reported more involvement in drug distribution, $RR = 1.31 (0.14)$, $p < .01$. Adolescents whose parents allowed them to use drugs in front of them reported increased marijuana use, $RR = 1.48 (0.23)$, $p < .05$, delinquency, $RR = 1.19 (0.10)$, $p < .05$, and involvement in drug distribution, $RR = 1.28 (0.14)$, $p < .01$. Finally, adolescents whose parents had been incarcerated were more likely to perpetrate sexual violence, $RR = 3.26 (1.77)$, $p < .05$.

Within the *school context*, adolescents who reported feeling safe at school and those who were more involved with school engaged in less delinquency, $RR = 0.80 (0.06)$, $p < .01$ and $RR = 0.85 (0.05)$, $p < .01$, respectively. In terms of *neighborhood factors*, experiencing more types of police contact continued to be associated with increased heavy drinking, $RR = 1.34 (0.09)$, $p < .001$, marijuana use, $RR = 1.13 (0.06)$, $p < .05$, likelihood of hard drug use, $RR = 1.43 (0.14)$, $p < .001$, criminal involvement, $RR = 1.36 (0.06)$, $p < .001$, delinquency, $RR = 1.25 (0.04)$, $p < .001$, and involvement in drug distribution, $RR = 1.19 (0.05)$, $p < .001$. Living in a neighborhood with higher disorder was associated with increased marijuana use, $RR = 1.26 (0.13)$, $p < .05$, and with greater involvement with drug distribution, $RR = 1.29 (0.10)$, $p < .001$. R^2 values are not available for Poisson or negative binomial regressions; however, the predictors collectively explained 32% of the variance in hard drug use and 44% of the variance in sexual violence perpetration.

Discussion

Research on gangs continues to be guided by theories that seek to explain gang involvement and delinquency at the individual level (Pyrooz & Densley, 2015). Multiple marginality offers an approach to understanding gangs that considers how social and structural factors influence the behaviors of gang members. Through the framework of multiple marginality, we examined potential delinquency and substance use risk and protective factors in the family, school, and neighborhood contexts to better understand variability among current gang members. Gang membership is understood to contribute to delinquency and substance use (Krohn & Thornberry, 2008), and researchers have concluded that offending typically increases when youth join gangs and during periods of most active membership, declining after youth leave gangs (Krohn & Thornberry, 2008; O'Brien, Daffern, Chu, & Thomas, 2013). Yet, although gang-involved youth tend to engage in more violent and nonviolent delinquency than non-gang youth (O'Brien et al., 2013), there is variability in delinquency and substance use among youth gang members.

Participants in this sample reported significant substance use: 44% indicated hard drug use in the previous 30 days, marijuana was used an average of 13 days per month, and drug distribution was relatively common. Additionally 38% of participants reported their parent or guardian allowed adolescent alcohol or drug use, and 30% reported their parent or guardian used drugs in front them. In line with previous research (Hoffman, Weathers, & Sanders, 2014), parental substance use was positively associated with substance use among gang members, as well as increased delinquency, marijuana use, and drug distribution. Adolescents whose parents used drugs in front of them were not only more likely to use hard drugs, but were also more likely to report involvement in drug distribution. Previous research has shown that high levels of parental support may be protective against gang membership (Lenzi et al., 2015). Our findings extend this research and demonstrate that parental investment may also be protective against delinquency and substance use among *current* gang members. Increased family communication was associated with less frequent heavy drinking, and increased family monitoring was associated with decreased drug distribution and marijuana use. Thus, it appears that parental involvement, communication, and monitoring may be protective against delinquency, regardless of whether there is family gang involvement.

Substance use is often approached as an individual-level deficit, yet multiple marginality accounts for the ways in which ones social environment, including home and neighborhood, shape personal behaviors and can make individuals more vulnerable to substance use or drug distribution. Although substance use is a prominent health risk among US adolescents in general (van Dommelen-Gonzalez, Deardorff, Herd, & Minnis, 2015), youths living in challenging and disadvantaged environments may be at greater risk for increased use and greater social consequences (Bjerregaard, 2010; R. A. Gordon et al., 2004). The familial context examined in this study had the most consistent associations with criminal involvement, delinquency, and substance use among active gang members. Family and parental involvement are key ecological influences for adolescents, as youth growth and development often occurs within the context of parents and families (Dishion & Stormshak, 2007). Yet, family dynamics are often influenced by neighborhood and environmental factors. For example, poverty and economic insecurity among low-income families can impair parenting practices, prevent successful role-modeling or guidance, and increase parental substance use (Lange, Dáu, Goldblum, Alfano, & Smith, 2017). Youth from single-parent households and those with family incomes below the poverty line are more likely to join gangs (Pyrooz & Sweeten, 2015). Interventions to increase parental monitoring and communication must consider the role of such factors in shaping parenting practices and family communication styles, and structural and policy-level interventions may have the greatest effects.

Within the school context, our findings revealed that, in addition to the importance of family and neighborhood environments laid out by the multiple marginality framework, school safety and involvement can be protective against delinquency. Previous research has shown that youth who felt they were treated fairly at school by teachers and other adults and those who felt a sense of belonging in school were less likely to be involved in gangs (Merrin, Hong, & Espelage, 2015). Similarly, research has shown that perceiving school as unsafe is positively associated with gang membership (Lenzi et al., 2015). Our findings offer further

support for potential positive effects of school, suggesting that even among current gang members, the school environment may protect against delinquent behaviors. Contrary to our expectations, school factors were not associated with drug use or distribution. This may reflect the ubiquitous nature of substance use in this sample, and among adolescents in general. Marijuana, for example, which was used an average of nearly 13 days in the previous 30 among this sample, is often incorporated into youths' social lives in ways that do not necessarily negatively impair their functions and roles within society or among their peers (Sanders, 2012). Given the normalization of marijuana among youth, distribution and use of marijuana may not be influenced by school factors the same ways hard drug use or distribution might. Future research should more closely examine patterns and types of drug use and distribution to uncover any differences by substance.

Minimal research has examined the potential influence of police interactions on delinquency among adolescent gang members, and our research sought to fill that gap. Research has shown, however, that police interactions that youth deem to be unreasonable or unprovoked could have a damaging effect on adolescents (Friedman et al., 2004; Nordberg et al., 2016). Police contact among young men in particular, is associated with symptoms of trauma and anxiety (Geller, Fagan, Tyler, & Link, 2014), and living in neighborhoods where pedestrian stops by police are more likely is associated with poor health outcomes, especially for minorities (Sewell & Jefferson, 2016). It is disconcerting that in our study, most participants had several police interactions, which were also positively associated with delinquency. Although there were no gender differences in reported delinquency, boys had greater odds of criminal involvement than girls. Youth who reported more types of police contact also reported higher levels of criminal involvement, delinquency, drug distribution, heavy drinking, and marijuana use, and were more likely to engage in hard drug use. Despite this association, we cannot determine causation. Youth gang membership increases the risk of being arrested, likely because of an increase in violent behavior associated with gang membership (Dong & Krohn, 2016). An alternative explanation, however, is that although policing practices and diversion programs intend to suppress delinquency, such practices may inadvertently contribute to higher levels of delinquency among youth, particularly racial and ethnic minority youth whom experience disproportionate contact with police (Wiley & Esbensen, 2016). Simply being stopped by the police, even if arrest does not occur, is associated with increased delinquency among youth and may contribute to police mistrust among those who feel they were stopped unjustly (Wiley & Esbensen, 2016), and may lead some youth to feel greater marginalization. Some research suggests that increased police enforcement of gang members actually increases social cohesion among gang members, thus leading to more attachment to deviant peers and delinquent behaviors (Klein & Maxson, 2010). Although causation cannot be determined in this study, future research should further examine the relationship between police interactions and delinquency, criminal involvement, and substance use. Positive police interactions should also be studied, as they may be protective against some of these outcomes.

Our findings reveal several opportunities for intervention and future research. Multiple marginality helps account for the social environment and may be a useful theoretical tool to inform family interventions and educational policy and practice (Conchas & Vigil, 2010). Youth join gangs for a variety of reasons, including high levels of exposure to violence and

perceived risk for victimization (Lenzi et al., 2015). While early interventions may prevent gang membership, interventions should also focus on decreasing delinquency and improving positive outcomes (e.g., educational attainment) among current gang members. Doing so must include an acknowledgement and emphasis on youths' social environments (home, school, and neighborhood) and efforts to overcome structural factors such as family poverty and neighborhood violence rather than a sole focus on individual delinquency or risk. Addressing the context in which youth live may help reduce the daily stress and marginalization youth experience, thereby reducing delinquent behavior. Similarly, efforts to enhance family support, parental monitoring, and generally improving the family system may be instrumental in reducing youths' desire or need to find support and family-like relationships in peers. Finally, school-based interventions that include the provision of social services and recreational programs may be an essential component in preventing gang membership and reducing violence within the school environment (Sharkey, Shekhtmeyster, Chavez-Lopez, Norris, & Sass, 2011). Although addressing delinquency and other social problems are not the primary task of our education system, schools need help building the support system necessary for academic success, which often includes helping youth who are dealing with complex social and family issues.

This study has limitations. This is a cross-sectional study using self-reported measures, and it is difficult to establish the temporal order of risk and protective factors among youth in this study, which limits our ability to infer causation. Community factors were also self-report measures, and future research may want to consider using objective measures of violence and poverty to better understand the context of youths' experiences. Furthermore, we could not assess changes in risk and protective factors over time. Similarly, our survey did not assess gang embeddedness, which may be an important factor in understanding variations in delinquency among gang members (Pyrooz, Sweeten, & Piquero, 2013). Although we controlled for length of time in gang, we could not assess levels of commitment to the gang, which can vary throughout one's gang membership and effect the extent to which an individual participates in delinquent behaviors. Youth who are considered core members of a gang for a long period of time are at an increased risk of engaging in criminal behavior (Thornberry, 2003). Additionally, although we included a proxy for socioeconomic status, we were not able to directly control for family or personal income in our analyses. Finally, our study did not include non-gang members, which inhibits our ability to compare gang members' experiences with other non-gang youth in Milwaukee. Despite these limitations, our study offers an important contribution to the body of research considering delinquency among current gang members.

Indeed, gang membership is positively associated with delinquency. Yet, as our findings reveal, not all adolescent gang members engage in equivalent levels of delinquency and substance use. Researchers should continue to explore social and structural factors that may influence the variability in substance use and delinquency among gang members, moving beyond the dichotomy of gang member/non-gang member. Through the framework of multiple marginality, we examined associations between family, school, and neighborhood contexts and delinquency, criminal involvement, and substance use among current gang members. Multiple marginality provides a useful framework in which to understand the ways youth gang members are impacted by their marginal social statuses and neighborhood

environment and future research should continue to examine such effects. Our findings reveal that multiple socioecological contexts matter when seeking to understand delinquency among adolescent gang members. Interventions should consider all these contexts as they strive to reduce delinquency among current gang members and minimize potential life-long consequences of gang involvement.

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Table 1

Descriptive Statistics Related to Demographic Characteristics, Risk and Protective Factors, Substance Use, and Delinquency and Criminal Involvement for Adolescent Gang Members (N = 449)

	<i>M (SD)</i>	%
Demographics		
Male		58%
Age	17.39 (1.53)	
Race/ethnicity		
Black		60%
Latino		28%
Other race		13%
Financial stress (1–5)	2.73 (1.45)	
Years in gang (0–19)	4.99 (3.88)	
Family factors		
Currently lives with parent/guardian		57%
Family communication (1–6)	3.21 (1.73)	
Family monitoring (1–6)	3.47 (1.70)	
Parental investment (1–5)	3.60 (1.17)	
Parent/guardian uses drugs in front of adolescent		30%
Parent/guardian allows adolescent alcohol/drug use		38%
Number of family members in gangs (0–8)	2.57 (2.37)	
Parent/guardian incarceration		50%
School factors		
Currently enrolled in or graduated from school		67%
Feels safe at school		70%
School involvement (past year, 1–4)	2.60 (0.76)	
Neighborhood factors		
Collective monitoring (1–4)	2.60 (0.74)	
Police interactions (0–4)	2.13 (1.31)	
Neighborhood disorder (1–4)	2.57 (0.63)	
Outcomes		
<i>Substance use</i>		
Days of heavy episodic drinking (past 2 weeks)	2.02 (3.23)	
Days of marijuana use (past 30 days)	12.90 (13.15)	
Any hard drug use (past 30 days)		44%
<i>Delinquency and criminal involvement</i>		
Arrest (0–3)	1.28 (1.22)	
Delinquent behaviors (past year, 0–6)	3.14 (2.30)	
Drug distribution (past 6 months, 0–10)	4.74 (3.77)	
Perpetrated sexual violence		8%

When not indicated, timeframe for measures is “ever.”

Table 2

Bivariate Associations between Risk and Protective Factors and Criminal Involvement, Delinquency, Drug Distribution, Substance Use, and Sexual Violence Perpetration for Adolescent Gang Members (N = 449)

COVARIATES	HED (days)		Marijuana (days)		Any hard drugs		Arrest		Delinq. – 12 months		Drug distribution		Sexual violence	
	IRR (SE)	OR (SE)	IRR (SE)	OR (SE)	IRR (SE)	OR (SE)	IRR (SE)	OR (SE)	IRR (SE)	OR (SE)	IRR (SE)	OR (SE)	IRR (SE)	OR (SE)
Male	1.28 (0.18) [†]		1.24 (0.13) [*]	1.79 (0.35) ^{**}	1.45 (0.14) ^{***}		1.02 (0.08)		1.15 (0.09) [†]		0.47 (0.18) [*]			
Age	1.24 (0.08) ^{***}		1.13 (0.05) ^{**}	1.25 (0.09) ^{**}	1.18 (0.04) ^{***}		1.03 (0.03)		1.07 (0.03) [*]		1.56 (0.25) ^{**}			
Race (ref: Black)														
Latino	1.19 (0.18)		1.02 (0.11)	0.93 (0.21)	0.80 (0.11)		0.84 (0.08) [†]		1.10 (0.10)		0.59 (0.33)			
Other race	0.57 (0.14) [*]		1.14 (0.17)	1.29 (0.37)	0.96 (0.15)		0.96 (0.10)		0.82 (0.11)		0.93 (0.49)			
Financial stress	1.10 (0.06) [†]		1.12 (0.04) ^{***}	1.27 (0.09) ^{**}	1.06 (0.04) [†]		1.01 (0.03)		1.05 (0.03) [†]		0.98 (0.14)			
Years in gang	1.06 (0.02) ^{**}		1.04 (0.01) ^{**}	1.10 (0.03) ^{***}	1.05 (0.10) ^{***}		1.02 (0.01)		1.03 (0.01) [*]		1.09 (0.04) ^{**}			
FAMILY	IRR (SE)	OR (SE)	IRR (SE)	OR (SE)	IRR (SE)	OR (SE)	IRR (SE)	OR (SE)	IRR (SE)	OR (SE)	IRR (SE)	OR (SE)	IRR (SE)	OR (SE)
Lives with parent/guardian	0.73 (0.11) [*]		0.79 (0.08) [*]	0.88 (0.18)	0.90 (0.09)		0.95 (0.07)		0.96 (0.08)		0.62 (0.25)			
Family communication	0.87 (0.04) ^{**}		1.00 (0.03)	1.00 (0.06)	1.05 (0.03)		0.96 (0.02) [†]		0.96 (0.02)		1.00 (0.10)			
Family monitoring	0.89 (0.05) [*]		0.92 (0.03) ^{**}	1.01 (0.06)	1.01 (0.03)		0.94 (0.02) ^{**}		0.92 (0.02) ^{***}		0.93 (0.09)			
Parental investment	0.90 (0.06) [†]		1.07 (0.05) [†]	1.06 (0.09)	0.99 (0.04)		0.90 (0.03) ^{***}		0.97 (0.04)		0.79 (0.11) [†]			
Parent/guardian drug use	1.57 (0.23) ^{**}		1.47 (0.14) ^{***}	4.26 (1.05) ^{***}	1.49 (0.15) ^{***}		1.40 (0.11) ^{***}		1.71 (0.14) ^{***}		6.72 (2.89) ^{***}			
Parent allows adolescent sub. use	1.70 (0.27) ^{***}		1.63 (0.17) ^{***}	3.31 (0.77) ^{***}	1.61 (0.16) ^{***}		1.50 (0.11) ^{***}		1.68 (0.14) ^{***}		9.41 (4.98) ^{***}			
Family gang involvement	1.06 (0.03) [*]		1.08 (0.03) ^{***}	1.19 (0.05) ^{***}	1.08 (0.02) ^{***}		1.02 (0.02)		1.05 (0.02) [*]		1.16 (0.09) [*]			
Parent/guardian incarceration	1.45 (0.21) [*]		1.42 (0.14) ^{***}	2.68 (0.56) ^{***}	1.45 (0.14) ^{***}		1.16 (0.09) [*]		1.26 (0.11) ^{**}		4.57 (2.15) ^{***}			
SCHOOL	IRR (SE)	OR (SE)	IRR (SE)	OR (SE)	IRR (SE)	OR (SE)	IRR (SE)	OR (SE)	IRR (SE)	OR (SE)	IRR (SE)	OR (SE)	IRR (SE)	OR (SE)
Enrolled in school	0.76 (0.12) [†]		0.88 (0.09)	1.02 (0.22)	0.88 (0.09)		0.90 (0.07)		0.97 (0.09)		0.84 (0.35)			
Feels safe at school	0.86 (0.14)		0.98 (0.11)	0.79 (0.18)	0.85 (0.09)		0.72 (0.05) ^{***}		0.92 (0.08)		0.94 (0.38)			
School involvement	0.75 (0.08) ^{**}		0.80 (0.06) ^{**}	0.84 (0.11)	1.00 (0.06)		0.82 (0.04) ^{***}		0.81 (0.05) ^{***}		0.75 (0.17)			
NEIGHBORHOOD	IRR (SE)	OR (SE)	IRR (SE)	OR (SE)	IRR (SE)	OR (SE)	IRR (SE)	OR (SE)	IRR (SE)	OR (SE)	IRR (SE)	OR (SE)	IRR (SE)	OR (SE)
Collective monitoring	0.88 (0.09)		0.82 (0.05) ^{**}	0.80 (0.11)	1.02 (0.07)		0.93 (0.05)		0.97 (0.06)		1.31 (0.38)			

	HED (days)	Marijuana (days)	Any hard drugs	Arrest	Delinq. – 12 months	Drug distribution	Sexual violence
Police interactions	1.35 (0.09)***	2.34 (0.23)***	1.73 (0.14)***	1.46 (0.06)***	1.25 (0.04)***	1.23 (0.05)***	1.34 (0.24)
Neighborhood disorder	1.37 (0.16)**	1.49 (0.12)***	1.55 (0.27)*	1.12 (0.08)	1.17 (0.07)*	1.44 (0.10)***	0.81 (0.24)

*** $p < .001$

** $p < .01$

* $p < .05$

† $p < .10$

Incident rate ratios (IRRs, from multivariate Poisson and negative binomial regressions) or odds ratios (ORs, from multivariate logistic regressions) are reported along with standard errors (SEs). Analyses were performed on 100 multiply imputed datasets and account for clustering by referral. Sub. use = alcohol/drug use; HED = heavy episodic drinking.

Table 3

Multivariate Associations between Risk and Protective Factors and Criminal Involvement, Delinquency, Drug Distribution, Substance Use, and Sexual Violence Perpetration for Adolescent Gang Members (N = 449)

COVARIATES	HED (days)		Marijuana (days)		Any hard drugs		Arrest		Delinquency		Drug distribution		Sexual violence	
	IRR (SE)	OR (SE)	IRR (SE)	OR (SE)	IRR (SE)	OR (SE)	IRR (SE)	OR (SE)	IRR (SE)	OR (SE)	IRR (SE)	OR (SE)	IRR (SE)	OR (SE)
Male	1.09 (0.19)	1.23 (0.15) ⁺	1.23 (0.15) ⁺	1.87 (0.46)**	1.22 (0.12)*	1.11 (0.04)**	0.91 (0.07)	1.09 (0.10)	0.32 (0.15)**					
Age	1.23 (0.09)**	1.05 (0.05)	1.05 (0.05)	1.12 (0.09)	1.11 (0.04)**	1.01 (0.01)	0.97 (0.03)	1.01 (0.03)	1.42 (0.24)*					
Race (ref: Black)														
Latino	1.38 (0.25) ⁺	1.07 (0.15)	1.07 (0.15)	1.12 (0.31)	0.88 (0.10)	0.88 (0.10)	0.88 (0.08)	1.18 (0.13)	1.01 (0.65)					
Other race	0.59 (0.16) ⁺	1.19 (0.21)	1.19 (0.21)	1.27 (0.46)	1.02 (0.12)	1.02 (0.12)	1.01 (0.10)	0.84 (0.11)	0.79 (0.50)					
Financial stress	0.98 (0.06)	1.03 (0.05)	1.03 (0.05)	1.18 (0.10) ⁺	1.00 (0.03)	1.00 (0.03)	0.95 (0.02)*	1.01 (0.04)	0.83 (0.14)					
Years in gang	1.02 (0.03)	1.02 (0.01)	1.02 (0.01)	1.06 (0.04) ⁺	1.01 (0.01)	1.01 (0.01)	1.00 (0.01)	1.01 (0.01)	1.10 (0.05)*					
FAMILY	IRR (SE)	IRR (SE)	IRR (SE)	OR (SE)	IRR (SE)	IRR (SE)	IRR (SE)	IRR (SE)	OR (SE)					
Lives with parent/guardian	1.00 (0.18)	0.89 (0.11)	0.89 (0.11)	--	--	--	--	--	--					
Family communication	0.87 (0.05)*	--	--	--	--	--	0.99 (0.03)	--	--					
Family monitoring	1.01 (0.06)	0.91 (0.04)*	0.91 (0.04)*	--	--	--	1.00 (0.03)	0.94 (0.03)*	--					
Parental investment	0.93 (0.07)	1.14 (0.06)**	1.14 (0.06)**	--	--	--	0.94 (0.03)*	--	0.86 (0.16)					
Parent/guardian drug use	1.34 (0.27)	0.98 (0.16)	0.98 (0.16)	2.79 (0.95)**	1.02 (0.12)	1.02 (0.12)	1.02 (0.09)	1.31 (0.14)**	2.29 (1.40)					
Parent allows adolescent sub. use	1.31 (0.27)	1.48 (0.23)*	1.48 (0.23)*	1.36 (0.42)	1.13 (0.13)	1.13 (0.13)	1.19 (0.10)*	1.28 (0.13)*	4.12 (3.15) ⁺					
Family gang involvement	1.01 (0.05)	1.02 (0.03)	1.02 (0.03)	1.05 (0.06)	1.04 (0.02) ⁺	1.04 (0.02) ⁺	--	1.00 (0.02)	0.95 (0.10)					
Parent/guardian incarceration	1.07 (0.20)	1.17 (0.14)	1.17 (0.14)	1.61 (0.44) ⁺	1.12 (0.13)	1.12 (0.13)	1.07 (0.08)	1.01 (0.11)	3.26 (1.77)*					
SCHOOL	IRR (SE)	IRR (SE)	IRR (SE)	OR (SE)	IRR (SE)	IRR (SE)	IRR (SE)	IRR (SE)	OR (SE)					
Enrolled in school	1.04 (0.23)	--	--	--	--	--	--	--	--					
Feels safe at school	--	--	--	--	--	--	0.80 (0.06)**	--	--					
School involvement	0.80 (0.10) ⁺	0.96 (0.10)	0.96 (0.10)	--	--	--	0.85 (0.05)**	0.93 (0.07)	--					
NEIGHBORHOOD	IRR (SE)	IRR (SE)	IRR (SE)	OR (SE)	IRR (SE)	IRR (SE)	IRR (SE)	IRR (SE)	OR (SE)					
Collective monitoring	--	0.87 (0.08)	0.87 (0.08)	--	--	--	--	--	--					

	HED (days)	Marijuana (days)	Any hard drugs	Arrest	Delinquency	Drug distribution	Sexual violence
Police interactions	1.34 (0.09) ***	1.13 (0.06) *	1.43 (0.14) ***	1.36 (0.06) ***	1.25 (0.04) ***	1.19 (0.05) ***	--
Neighborhood disorder	1.00 (0.14)	1.26 (0.13) *	1.26 (0.26)	--	--	1.29 (0.10) ***	--
R²	--	--	0.32 ***	--	--	--	0.44 ***

p < .001

**
p < .01

*
p < .05

+
p < .10

Incident rate ratios (IRRs), from multivariate Poisson and negative binomial regressions) or odds ratios (ORs, from multivariate logistic regressions) are reported along with standard errors (SEs). Analyses were performed on 100 multiply imputed datasets and account for clustering by referral. R² values are not available for Poisson and negative binomial regressions. Sub. use = alcohol/drug use; HED = heavy episodic drinking.

Table 4. Correlations Between Family, School, and Neighborhood Environment and Substance Use and Delinquency and Criminal Involvement for Adolescent Gang Members (N = 449)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1. Lives with parent	--																			
2. Family communication	0.29	--																		
3. Family monitoring	0.25	0.60	--																	
4. Parental investment	0.11	0.23	0.31	--																
5. Parent drug use	-0.03	0.02	-0.07	-0.09	--															
6. Parent allows sub. use	0.00	0.02	-0.10	-0.15	0.57	--														
7. Family gang involvement	0.06	0.09	0.04	0.14	0.26	0.29	--													
8. Parent incarceration	0.03	0.00	-0.01	0.08	0.29	0.23	0.50	--												
9. In school or graduated	0.34	0.32	0.34	0.12	0.03	0.01	0.12	0.06	--											
10. Feels safe at school	0.15	0.26	0.29	0.05	-0.01	-0.05	-0.01	0.01	0.42	--										
11. School involvement	0.20	0.41	0.44	0.07	-0.07	-0.07	-0.03	-0.05	0.44	0.37	--									
12. Collective monitoring	0.10	0.22	0.13	-0.04	-0.07	-0.03	-0.04	-0.03	0.12	0.08	0.25	--								
13. Police interactions	0.07	0.14	0.09	-0.03	0.24	0.25	0.13	0.14	0.10	0.00	0.05	0.05	--							
14. Neighborhood disorder	-0.14	-0.17	-0.17	0.01	0.16	0.10	0.13	0.12	-0.11	-0.14	-0.29	-0.18	0.08	--						
15. HED	-0.11	-0.15	-0.12	-0.08	0.15	0.18	0.11	0.12	-0.09	-0.04	-0.12	-0.06	0.26	0.13	--					
16. Marijuana use	-0.12	-0.01	-0.16	0.08	0.19	0.25	0.17	0.18	-0.06	-0.01	-0.15	-0.15	0.21	0.23	0.23	--				
17. Hard drug use	-0.03	0.00	0.01	0.04	0.32	0.28	0.20	0.24	0.00	-0.05	-0.07	-0.08	0.33	0.14	0.31	0.31	--			
18. Arrest	-0.06	0.08	0.01	-0.01	0.21	0.25	0.19	0.20	-0.06	-0.08	0.00	0.02	0.48	0.07	0.23	0.21	0.33	--		
19. Delinquent behaviors	-0.04	-0.10	-0.15	-0.18	0.23	0.28	0.07	0.10	-0.07	-0.22	-0.20	-0.08	0.39	0.13	0.36	0.25	0.26	0.38	--	
20. Drug distribution	-0.02	-0.08	-0.18	-0.05	0.33	0.33	0.14	0.15	-0.02	-0.05	-0.19	-0.04	0.33	0.28	0.41	0.43	0.43	0.24	0.41	--
21. Sexual violence	-0.06	0.00	-0.04	-0.08	0.25	0.26	0.10	0.18	-0.02	-0.01	-0.06	0.05	0.10	-0.04	0.21	0.04	0.21	0.24	0.22	0.25