

Differentiating Between Delinquent Groups and Gangs: Moving Beyond Offending Consequences

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Abstract:

Even when controlling for high levels of delinquent peers, gang youth differ from their nongang counterparts on a variety of attitudinal and behavioral measures. Researchers have argued that differences can be attributed to the group processes present in the gang setting. This study explores the extent to which differences between youth in a gang and those in a delinquent group can be explained by Bandura's social cognitive theory. Much of the prior research in this arena has relied on cross-sectional data; in this study we expand on this prior research by using fixed-effects modeling strategies with a multi-site panel of youth. The results comparing time periods when youth were in a gang versus a delinquent peer group indicate that gang-involved youth are more violent and have fewer conventional bonds. This work is able to advance our knowledge on attitudinal and behavioral differences between gangs and other types of peer groups.

Keywords: gang; delinquent peer group; fixed-effects modeling; social cognitive theory

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Introduction

One of the more widely documented findings of criminological research is the enhanced effect of youth gang membership on violent offending and victimization (Battin et al. 1998; Esbensen and Carson 2012; Esbensen and Huizinga 1993; Hill et al. 1999; Melde and Esbensen 2013; Thornberry et al. 1993). Moreover, research has documented that gang members are characterized by more risk factors within more domains than youth who are not gang involved (Esbensen et al. 2010; Thornberry et al. 2003). However, these findings may simply be an artifact of belonging to a highly delinquent peer group. That is, gangs are simply at the extreme end of the delinquent peer group continuum and the “gang effect” is nothing more than a heightened “peer effect” (Miller 1982). Still, while most comparisons in prior research are limited to gang/nongang status, when controls for other types of delinquent peer groups are introduced, researchers continue to find that gang youth have more risk factors (Battin et al. 1998; Dong and Krohn 2016; Esbensen, Huizinga, and Weiher 1993; Gatti et al. 2005; Gordon et al. 2004; Thornberry et al. 2003). These and similar findings have led gang researchers to argue that gangs are “qualitatively different” from other delinquent peer groups (Decker, Melde, and Pyrooz 2013; Klein 1995; Klein and Crawford 1967; Klein and Maxson 2006; Moore 1991; Short and Strodbeck 1965; Thornberry et al. 2003). Moore (1991), for example, maintained that gangs are outside the continuum of “rowdy” groups and that the effect of gang membership on behavior extends beyond the effect of delinquent peer group membership. These “qualitative differences” are largely attributed to group processes within the gang, which can create an environment conducive to delinquency and violence (Decker, Melde, and Pyrooz 2013; Esbensen and Maxson 2012; Klein and Maxson 2006; Short and Strodbeck 1965).

While group processes may influence gang members, individuals are not solely the product of their environment and action is also a result of self-regulatory mechanisms (Bandura 2002). Social cognitive theory, for example, argues that individuals are driven by the reciprocal relationship between behavior, cognitive factors/affect and environmental agents (Bandura 1986). A mission to understand what makes gangs different from delinquent peer groups has led a number of scholars to compare gang youth to those who report belonging to a delinquent peer group (or having a certain proportion of delinquent friends) on several individual-level factors, including levels of street and violent offending and risk factors for gang membership. In general, this work consistently finds evidence of unique differences between gang youth and those who associate with delinquent peers on violent offending, delinquency, number of delinquent peers, motivations for group joining, as well as arrest (Battin et al. 1998; Bouchard and Spindler 2010; Dong and Krohn 2016; Esbensen, Huizinga, and Weiher 1993; Lachman, Roman, and Cahill 2013; Thornberry et al. 2003).

These works, however, are limited by their reliance on cross-sectional analyses (although see Battin et al. 1998 and Dong and Krohn 2016). Self-report panel studies of youth commonly find that gang membership typically only lasts one to two years (Esbensen and Huizinga 1993; Pyrooz, Sweeten, and Piquero 2013; Thornberry et al. 2003) and the use of cross-sectional data limits the ability to account for the transient nature of gang membership. Additionally, much of the prior research in this area is unable to adjust for selection effects due to a reliance on cross-sectional data (Bouchard and Spindler 2010; Esbensen, Huizinga, and Weiher 1993; Lachman, Roman, and Cahill 2013). Controlling for pre-existing differences is important as youth who join a gang differ from those who do not (Thornberry et al. 1993). In this study, we build upon prior research by drawing on a multi-site panel study of youth to examine within-individual change

associated with involvement in a gang, a delinquent peer group, or a typical adolescent peer group (i.e., nongang, nondelinquent peer group).¹ In order to account for selection bias we rely on a fixed-effects modeling strategy, which controls for time-stable individual characteristics that may be correlated with the independent and dependent variables. In addition, we make use of social cognitive theory (SCT) to parse out differences across group membership in not only offending, but also individual-level attitudes and values. The use of psychological perspectives to explain gang phenomena has been limited and mostly relies upon attempts to explain in- and out-group differences (Alleyne, Fernandes, and Pritchard 2014). Gang researchers have called for more research into this arena stating that it would provide a more complete understanding of gangs and gang members (see Wood and Alleyne 2010 and Alleyne and Wood 2012).

Our results are especially relevant to gang prevention and intervention efforts. Policy makers consistently treat gangs as if they are unique from delinquent peer groups through the use of gang specific intervention policies and programs (e.g., civil gang injunctions, the G.R.E.A.T. program, Project CeaseFire). The inability of police officers to accurately identify gang members as well as the transiency of gang membership have led some researchers to argue that research and policy should focus on youth violence in general, rather than gangs specifically (Sullivan 2006). If youth's behaviors and attitudes are, in fact, similar regardless of whether they are in a gang or delinquent peer group then gang-specific interventions should have an equally deterrent impact on all delinquent youth and indicate that policies could be more generalized and less specific to gangs and their members. Conversely, if our research demonstrates that gang and nongang delinquent members are unique across a wide range of factors, then understanding the differences between gang youth and those involved in a delinquent peer group will aid

practitioners in the identification of high-risk youth for gang prevention programming (Hennigan et al. 2014).

Social Cognitive Theory and Gang Membership

Social psychologists emphasize that the social nature of our lives and the groups in which we are embedded can shape us as individuals. While the idea that gangs have certain properties that affect the behavior of their members is not a new concept for gang researchers (Klein and Crawford 1967; Short and Strodbeck 1965), it is usually studied through the lens of social identity theory (Goldman, Giles, and Hogg 2014; Hennigan and Spanovic 2012; Vigil 1988). This perspective, however, is limited in its ability to help us understand how attitudes and behaviors are impacted by both the group as well as individual cognitions. Therefore, we draw on social cognitive theory (SCT) to understand how gang involvement impacts individual-level outcomes above and beyond what we may see for delinquent or typical adolescent peer groups. SCT argues that individuals are not “autonomous moral agents,” but are influenced by social and environmental contexts (Bandura 2002, p. 102). Bandura (1986) argues that individual behaviors are the result of the reciprocal interaction between cognitive, affective, and social/environmental influences. In other words, our actions and cognitions cannot be separated from social influences. When individuals are in an environment of shared moral standards, the decision to participate in a behavior is based on whether or not that action is socially acceptable. The individual, then, has a cognitive understanding of what behaviors are not socially approved and will refrain from participation (Bandura 1986). When the shared moral standards are prosocial in nature, then this process will produce prosocial attitudes and behaviors. Conversely, when individuals are in an environment that promotes delinquent attitudes and behaviors, such as a gang, then those attitudes and behaviors will be rewarded and individuals may feel free to deviate from the moral

standards of the larger society. Furthermore, Bandura (1986) argues that behavior is especially susceptible to outside influences when the individual does not have strong opposing internal standards. This statement is especially relevant to our study because prior research has argued that the high levels of real or perceived cohesiveness within gangs is particularly attractive to individuals who are uncertain about their identity (Goldman, Giles, and Hogg 2014; Vigil 1988; Woo et al. 2015).

Bandura (1991) argues that social influences can have an effect on an individual's attitudes and behaviors because they impact the one's ability to self-regulate. Individuals regulate their moral actions based on their perception of anticipated rewards or punishments associated with that action. Specifically, individuals act morally because of the intrinsic benefits (i.e., altruism) and restrict themselves from immoral behavior to avoid negative consequences (i.e., feelings of guilt). The gang, however, can alter self-regulatory processes because benefits are gained from immoral actions. Immoral behaviors such as participation in crime and violence are met with social approval from the gang, increased status, and, in some cases, monetary gain. Within the gang context, the perceived benefits of increased status and respect from gang peers can alter the ability of gang youth to make moral decisions (McGloin and Collins 2015). In fact, research demonstrates that gang youth exhibit lower levels of guilt and increased self-centeredness (Matsuda et al. 2013; Melde and Esbensen 2011, 2014; Peterson and Morgan 2014), which is unsurprising given that guilt and shame are reduced in group settings (McGloin and Collins 2015). Additionally, empathy is related to an individual's capacity for self-regulation in social situations and, therefore, may be altered during times of active gang membership (Findlay, Girardi, and Coplan 2006). Furthermore, empathy, or lack thereof, is commonly

associated with offending (Jolliffe and Farrington 2004) as well as gang involvement (Valdez, Kaplan, and Codina 2000).

Due to their ability to alter self-regulation, social influences are also able to provide “collective support for adherence to moral standards” (Bandura 1991, p. 70). Gang youth tend to place more emphasis on the standards and beliefs of their gang peers than individuals or institutions outside the gang (Anderson 1999; Vigil 1988). Thus, if social influences are based on immoral standards, as they are in a gang, then the individual will foster these beliefs rather than prosocial ones. This process was discussed by Vigil (1988), who argued that the attitudes and behaviors held by the gang shape the way a youth “thinks about himself and others and provides models for how to look and act” (p. 421). Gang youth, therefore, may modify or discard their existing values and attitudes in favor of those consistent with the positive attributes of gang life (Wood and Alleyne 2010). These modifications may be particularly abrupt for gang youth because the gang tends to isolate its members from conventional groups. In fact, a number of studies show that gang youth, as opposed to their nongang counterparts, report stronger commitment to negative peers (Esbensen et al. 2010; Matsuda et al. 2013; Melde and Esbensen 2011, 2014; Peterson and Morgan 2014) and lower levels of involvement with prosocial peers (Esbensen et al. 2010; Melde and Esbensen 2011, 2014; Peterson and Morgan 2014). The gang’s ability to isolate its members also impacts the involvement of gang members in other social institutions, like schools. Cohen (1955) discusses how gangs are frequently in opposition to the culture set up by schools (see also Horowitz 1983). Performing well in school and being the model student does not garner the same amount of respect from the gang as physicality, street smarts and wit (Decker and Van Winkle 1996; Pyrooz 2014; Short and Strodbeck 1965). Therefore, it is no surprise that gang members demonstrate lower commitment to school than

their nongang counterparts (Esbensen et al. 2010; Hill et al. 1999; Melde and Esbensen 2011, 2014; Peterson and Morgan 2014; Thornberry et al. 2003; Weerman, Lovegrove, and Thornberry 2015).

Social influences can also facilitate the “activation and disengagement” of self-regulation (Bandura 1991, pg. 70). Being in a gang creates moral conflict (i.e., cognitive dissonance) because it presents individuals with benefits that can be the result of inhuman or immoral behaviors (Bandura 1990). In order to reduce this conflict, gang youth commonly use moral disengagement strategies, such as moral justification, euphemistic language, advantageous comparisons, displacement and diffusion of responsibility, distortion of consequences, victim blaming, and dehumanization (see Bandura 2002 for a detailed description of these strategies). Neutralizations for violence, for example, can alleviate dissonance that results from participating in violent behaviors as part of the gang. In fact, gang youth, when compared to nongang youth, report greater agreement with neutralization techniques (Alleyne, Fernandes, and Pritchard 2014; Alleyne and Wood 2010; Esbensen et al. 2010; Esbensen and Weerman 2005; Melde and Esbensen 2011, 2014; Peterson and Morgan 2014). Additionally, Bandura (2002) stated that moral disengagement can impact other aspects of individual cognition and affect, arguing that individuals with high levels of moral disengagement are less prosocial, in general, and experience lower levels of guilt. Overall, then, gangs as social influences can modify the attitudes and behaviors of their members by altering self-regulation processes, providing collective immoral standards, and facilitating moral disengagement.

Comparing gangs and delinquent peer groups

Given the proposed differences between gangs and delinquent peer groups, it is not surprising that researchers have attempted to differentiate these two groups for decades, which has resulted

in a small, but important body of literature. This research commonly operationalizes involvement in a delinquent peer group as the presence of a high proportion of delinquent peers. This work often examines the effect of gang membership on offending outcomes above and beyond that of delinquent peers and has identified a unique impact of gang involvement on individual-level delinquency (Battin et al. 1998; Gatti et al. 2005; Gordon et al. 2004), violence, drug sales and substance use (Thornberry et al. 2003) as well as a long-term impact on violence and arrest (Dong and Krohn 2016). This is important evidence for the unique impact of gang membership on offending when *controlling* for the proportion of delinquent peers. The use of the proportion of delinquent peers as a proxy, however, is unable to account for involvement in a peer group and, therefore, excludes the underlying impact of group processes. Members of both gangs and delinquent peer groups are likely to report association with delinquent peers, which no doubt increases opportunities to offend as well as co-offending behavior. Simply having delinquent peers, however, does not imply the presence of group processes. Youth must identify with a group in order for group processes to be present (Tajfel 1978). Overall, the presence or absence of group involvement is an important distinction given the previously discussed processes that are unique to a group setting.

Research that is able to account for group involvement is comparatively rare. When making comparisons to gang youth, Bouchard and Spindler (2010), for example, asked youth to report on their involvement in a delinquent peer group (i.e., were you a member of a group involved in deviance of any sort?). This work demonstrated differences between gang involved youth and those in a delinquent peer group on individual-level delinquency, property offending, drug sales, and drug use as well as on organizational characteristics and group processes. Youth who reported gang involvement were more likely than youth in a delinquent peer group to report

that their group had a name, leader, rules, signs or codes, a hierarchy, an initiation process, and also indicated that their group was territorial and defended its honor or reputation. While these findings are similar to those identified when controlling for delinquent peer associations, it is arguably more accurate to compare youth in a gang to those in a delinquent group. Furthermore, Bouchard and Spindler's (2010) work, despite relying on cross-sectional data, has built on previous research by looking at more than just offending outcomes.

Additional work has attempted to parse out differences between gang youth and delinquent group members in other ways. Esbensen and colleagues (1993) investigated similarities and differences between gang members, youth involved in street offending, and non-offenders on a variety of behavioral and theoretical variables. Their behavioral results indicated a unique gang effect on street offending, minor and serious offending, and alcohol use. In terms of theoretical variables, the authors identified only one significant difference among 18 attitudinal and perceptual variables: being labeled as bad or disturbed by a teacher was significantly higher for gang members.

In an effort to understand how gangs are unique from delinquent peer groups, prior work has attempted to differentiate these youth on a number of individual-level attitudes and behaviors. While this body of work finds support for a unique impact of being gang involved on levels of offending and violence (i.e., qualitative differences), it is subject to three main limitations. First, much of this work has relied primarily on cross-sectional data, which does not account for the transient nature of gang membership. We address this limitation in the current study by making use of longitudinal data to control for within-person changes associated with involvement in a gang, a delinquent peer group, or typical adolescent group. Second, because previous longitudinal examinations of these differences use a proportion of delinquent peers

measure as a proxy for delinquent peer group involvement (Battin et al. 1998; Dong and Krohn 2016; Thornberry et al. 2003), previous work has not accounted for involvement in a peer group and, therefore, excludes the underlying impact of group processes. This is an important omission because, as Bandura's social cognitive theory suggests, gangs can act as social influences in the lives of their members and, thus, modify their attitudes and behaviors by altering their self-regulation processes, providing collective immoral standards, and facilitating moral disengagement among its members. The current study adds to this knowledge base by including a group involvement measure rather than relying on the proportion of delinquent peers. Finally, prior research comparing gang youth with those in a delinquent peer group has relied heavily on behavioral comparisons. It remains unclear the extent to which these youth, who are both impacted by group processes in some way, differ on other outcomes. To address this issue, we examine whether movement through different types of peer groups (i.e., gang, delinquent peer group, typical adolescent group) is associated with changes in offending behavior as well as individual-level attitudes and values. We hypothesize that during periods of active gang membership, youth participate in higher levels of violence and hold more antisocial values than when they are involved in a delinquent peer group. Conversely, when youth belong to a typical adolescent group they should hold fewer delinquent attitudes and participate in less delinquency than periods when they are delinquent peer group members. Understanding the unique differences between these disparate groups of youth will help inform gang-specific prevention and intervention programs.

Methods

In order to examine how changes in peer group status affect attitudinal and behavioral outcomes, this study uses data from the National Evaluation of the G.R.E.A.T. (Gang Resistance Education

and Training) program. The G.R.E.A.T. program is a gang prevention program taught by law enforcement officers and targeted at middle school youth. The evaluation consisted of a longitudinal panel study (2006 to 2011) that took place in seven cities across the U.S. (see Esbensen et al. 2013, for more detail about the evaluation design). Cities were chosen to participate in the evaluation based on the existence of an established G.R.E.A.T. program, geographic and demographic diversity, and presence of gang activity. The final seven sites represent a wide range of cities from the east to the west coast and include the following: Albuquerque, New Mexico; Chicago, Illinois; Greeley, Colorado; Nashville, Tennessee; Philadelphia, Pennsylvania; Portland, Oregon; and a city in the Dallas/Fort Worth, Texas area.

All students in the selected classrooms were eligible to participate in the evaluation. A total of 4,905 students were enrolled in 195 participating classrooms in 31 middle schools at the beginning of the data collection process. After a thorough active parental consent process, 89 percent (N = 4,372) of youth returned consent forms, and 78 percent were given permission by a parent or guardian to participate in the evaluation (11% of parents declined) (see Esbensen, Melde, Taylor, and Peterson 2008 for an in-depth description of the active consent procedures). This consent process resulted in a final sample size of 3,820 youth. In 2006, students completed pre-test and post-test (Waves 1 and 2) self-report surveys with completion rates of 98.3 and 94.6 percent, respectively.² Youth also completed four annual follow-up surveys (Waves 3, 4, 5, and 6), with completion rates of 87, 83, 75, and 73 percent, respectively.

Because we are interested in individual-level change over time, youth with fewer than two waves of complete data were excluded from the analysis sample (n = 434). We also excluded 67 youth who were considered social isolates (i.e., youth who did not identify as being in any of the three specified peer groups across five or more waves of data) because we are

interested in the effect of group membership on outcomes and these youth cannot contribute to our analyses. This purposeful exclusion of cases leaves 13,464 time points nested within 3,319 youth to contribute to the final analyses.³ This sample is nearly evenly split by sex (48.7% of the sample is male). The racial makeup of the analysis sample reflects the complete G.R.E.A.T. sample, with 28 percent white, 17.8 percent black, 39.7 percent Hispanic, and 14.5 percent reporting another or mixed race.

Measures

Independent variable: Group status

Three mutually exclusive groups were created to capture 1) involvement in a gang, 2) involvement in a nongang delinquent peer group (also referred to as “delinquent group”), or 3) involvement in a typical adolescent group. At each wave, youth were coded as belonging to a gang if they responded “yes” to the question, “Are you now in a gang?” or “Do you consider your group of friends to be a gang?”⁴ If youth reported that they were not currently in a gang, but responded affirmatively to the question, “Do people in your group actually do illegal things together,” they were coded as being in a delinquent group for that wave. Finally, if youth reported neither gang involvement nor group participation in illegal activities, but reported that they had a group of friends with whom “they spend time with, doing things together or just hanging out,” they were categorized as typical adolescent group members at the respective wave.

Dichotomous indicators for each type of group were created for the analyses (e.g., a dichotomous indicator with youth defined as gang members coded “1” and all others coded “0”). We rotated the reference groups depending on the comparisons under consideration. That is, our interest in the changes that occur during delinquent group membership or gang membership as opposed to being in a typical adolescent group requires using the typical peer group as the

reference category. Alternatively, when the delinquent peer group serves as the reference category, we can examine the impact of gang membership as opposed to delinquent peer group membership.

Dependent variables: Consequences of gang membership

As SCT suggests, social influences may impact the individual's ability to self-regulate. To capture these internal standards, we rely on three measures. First, we include a seven-item scale of *anticipated guilt*, which captures how guilty youth would feel if they participated in various delinquent activities (e.g., "How guilty or badly would you feel if you sold marijuana or other illegal drugs?") ($\alpha = .92$).⁵ Response categories include "1. Not very guilty/badly," "2. Somewhat guilty/badly," and "3. Very guilty/badly." *Empathy* is a five-item scale that captures youth's agreement with statements such as, "I would feel sorry for a lonely stranger in a group," and responses are on a five-point Likert scale with higher scores representing greater empathy ($\alpha = .70$). Finally, *self-centeredness* is a four-item scale which measures the extent to which youth agree with putting themselves before others (e.g., "I try to look out for myself first, even if it means making things difficult for other people.") ($\alpha = .76$). Response categories are on a five-point Likert scale with higher scores representing more self-centeredness.

The gang also shapes youth's prosocial and antisocial beliefs by providing a model and support for moral standards. Gang-involved youth may become isolated from out-groups and more enmeshed with the gang as they begin to drift away from conventional activities and institutions, thereby fostering antisocial rather than prosocial beliefs. We address consequences associated with conventional and delinquent bonding with the inclusion of three variables. First, we include *negative peer commitment*, which consists of a three-item scale asking youth how likely it is that they would go along with friends if they were getting into trouble at home, at

school, or with the police ($\alpha = .85$). This measure was scored on a five-point scale ranging from “1. Not at all likely” to “5. Very likely.” In addition to measuring youth’s attachment to deviant peers, we include a four-item scale, *prosocial peers*, which captures youth’s associations with prosocial peers (e.g., “How many of your current friends have gotten along well with teachers and adults at school?”). Response categories are on a five-point scale ranging from “1. None of them” to “5. All of them” ($\alpha = .86$). *School commitment* is also included as a measure of conventional bonding ($\alpha = .81$). This seven-item scale captures how much youth agree or disagree with statements such as, “Homework is a waste of time,” and response categories are based on a five-point Likert scale with higher scores indicating greater commitment to school.

In addition to changing youth’s moral standards and collective support for antisocial behavior, gang membership should affect youth’s moral conflicts. To capture moral disengagement strategies, we include a mean scale measure of *violent neutralizations*, whereby youth indicate how much they agree or disagree with three statements regarding hitting (e.g., “It’s okay to beat up someone if they hit you first.”) ($\alpha = .85$). Responses are on a five-point Likert scale ranging from “1. Strongly disagree,” to “5. Strongly agree.”

One of the primary proposed differences between gang youth and delinquent peer group members is that gang youth participate in more violent crime. We measure involvement in violent crime within the last six months with five self-reported offending items: “Carried a hidden weapon for protection,” “Hit someone with the idea of hurting him or her,” “Attacked someone with a weapon,” “Used a weapon or force to get money or things from people,” and “Been involved in gang fights.”⁶ Response categories range from 0 to more than 10 times, resulting in a summed *violent delinquency frequency index* ranging between 0 and 55. In addition to violent delinquency, we are interested in whether youth participate in more overall

delinquency when they are gang-involved. Therefore, we include a measure of nonviolent delinquency frequency, which includes nine additional delinquent activities ranging in seriousness from “Skipped classes without an excuse,” to “Sold marijuana or other illegal drugs.” The range for the *nonviolent delinquency frequency index* is 0 to 99. A large number of respondents indicated that they did not participate in any delinquency, therefore, due to the skewed nature of both the violent and nonviolent delinquency variables, we added one and took the natural log prior to data analysis.⁷

Time-varying control variables

We control for a number of time-varying variables associated with the outcomes of interest. These include age, parental monitoring, impulsivity, risk-seeking, anger, stealing neutralizations, proportion of delinquent peers, substance use frequency, victimization frequency, and perceived neighborhood and school disorder. In addition to these variables, we control for violent neutralizations, guilt, empathy, self-centeredness, prosocial peers, negative peer commitment, school commitment, violent delinquency, and nonviolent delinquency when they are not included as outcomes in the models. For example, when assessing the effect of group membership on violent delinquency, all of these variables, with the exception of violent delinquency, are included as controls.

Analytic plan

To isolate the consequences of gang membership and account for selection bias, which is a primary concern in prior research examining differences between gang and nongang youth, we estimate within-individual change for continuous outcomes using fixed-effects models (Allison 2009). Fixed-effects models use the individual as his or her own control, which controls for any time-stable individual characteristics that are correlated with group status and the outcomes of

interest. This adjustment for selection bias is particularly important because youth who join gangs are distinct from their nongang peers and may be more easily influenced by the gang due to uncertainty with their own identity. Because our outcomes are continuous or continuous-like, we estimate our fixed-effects models using ordinary least squares regression. The longitudinal dataset was restructured such that a single wave for each individual represents a unique observation. Using the `xtreg` command with the fixed-effects option in Stata 14.1 (StataCorp 1985-2015), we specify separate models for each outcome of interest to estimate within-individual changes associated with involvement in a typical adolescent group, nongang delinquent group, and gang. These models incorporate cluster-robust standard errors to account for dependence of observations, potential heteroscedasticity, and serial correlation (Cameron and Miller 2015). To determine the effects of delinquent group membership and gang membership relative to typical group membership, we first rely on the typical adolescent group as the reference category. Next, the nongang delinquent group serves as the reference category to allow for examination of the influence of gang membership, relative to delinquent group membership, on our outcomes. Fixed-effects methods estimate parameters only for those individuals who change over time, thus youth who do not change on the outcome do not contribute to estimates of within-individual change.

Disadvantages to fixed-effects analysis include the inability to account for time-stable characteristics (e.g., race, sex) and dynamic selection bias. This first point is of little concern in the current study because we are primarily interested in within-person differences and any individual time-stable variables are accounted for in the person-specific error term. Dynamic selection bias is described by Bjerk (2009) as the bias that arises when the characteristics related to an individual's decision to make a particular choice (in this case, the decision to belong to a

certain group) are also related to his or her criminal propensity. If the dynamic characteristics that drive such decisions are not controlled for, then the relationship between the independent variable and outcome is overestimated. By controlling for additional time-varying variables (e.g., age, parental monitoring, impulsivity) we are able to address some of the concern associated with dynamic selection bias; however the potential for dynamic selection bias to influence our results remains. One alternative to fixed-effects is random-effects analysis, which allows for the inclusion of time-invariant variables but assumes that there are no omitted variables in the model (or if variables are omitted, they are uncorrelated with the predictors) (see Allison 2009). We chose to analyze our data using fixed-effects analysis because we are concerned with the role that selection and omitted variable bias could play in the interpretation of our results.

Furthermore, Hausman test results indicate that fixed-effects models are preferred over random-effects models for our data.

Findings

Descriptive results

Descriptive information regarding group membership is presented in Figures 1 and 2. The values displayed in Figure 1 represent the prevalence of group membership: nearly 96 percent of youth were ever in a typical adolescent group, while almost 28 percent were ever in a nongang delinquent group and 24 percent were ever gang-involved. The within-person percentages reported in Figure 2 represent the percentage of time points in a particular group, contingent on having ever been involved in that group. That is, among youth who had ever been in a typical peer group, nearly 84 percent of their remaining observed time points were also during typical peer group membership. Stability in group membership decreases for youth in a delinquent peer group: conditional on an individual being in a delinquent peer group at any given time point,

only 35 percent of his or her remaining time points are spent in a delinquent peer group. Within-person stability is slightly higher for gang membership, albeit much lower than for typical group membership: among youth who have ever been in a gang, approximately 43 percent of their remaining observations are during periods of gang membership.⁸ In other words, fewer than half of these respondents' observations are during periods of gang membership. These descriptive results indicate that within individuals, group membership is most stable among youth who belong to a typical adolescent group; that is, youth who have ever been in a typical adolescent group remain in a typical group for most of their observed time points. More variability is seen for youth who belong to delinquent peer groups or gangs, who spend less than half of their observed time in at least one of the two groups.

Table 1 provides the overall means and standard deviations for the full sample, as well as the standard deviations between and within individuals. The "Overall Sample" columns refer to each unique observation. Across all observations, the average number of violent delinquent acts committed was 2.28 with a standard deviation of 6.03 and range of 0 to 55. The standard deviations in the "Between-person" column are calculated for individuals, rather than time points, and reveal the average deviation from the sample mean. For example, youth deviated from the average number of violent delinquent acts by 4.47. Meanwhile, the within-person data provides information on the deviation from each person's average. For example, over time, youth deviated from their individual mean of violent delinquency by 4.26, on average. Interestingly, comparison of the between- and within-person standard deviations reveal that differences between any two randomly selected individuals are roughly equal to individual differences over time (e.g., the between-person standard deviation for guilt is .42 while the within-person

deviation for guilt is .44). These descriptive statistics highlight that there is sufficient within-individual change across the outcomes of interest to assess within-individual change over time.

Fixed-effects analysis results

Turning to the first set of results in Table 2, our fixed-effects analyses reveal that a number of changes occur when youth are involved in a nongang delinquent peer group or gang relative to periods when they are in a typical adolescent group. The row labeled “Nongang Delinquent Group” indicates that when youth are delinquent group members, relative to times when they are involved in typical adolescent groups, they anticipate less guilt for participating in delinquent acts ($b = -.09, p < .001$), are more committed to their delinquent peers ($b = .11, p < .01$), and report greater agreement with neutralization statements ($b = .08, p < .05$). In addition, the frequency of nonviolent delinquency increases during periods in which youth belong to delinquent peer groups: belonging to a nonviolent delinquent peer group is associated with a 22 percent increase in nonviolent delinquency frequency ($b = .20, p < .001$).⁹ We do not find evidence that empathy, self-centeredness, prosocial peers, school commitment, or violent delinquency change when youth belong to a delinquent versus typical group.

Turning to the row labeled “Gang,” our results indicate that several differences emerge during periods during periods of gang-involvement relative to periods when these same youth are involved in typical adolescent groups. Specifically, gang involvement is associated with less anticipated guilt ($b = -.07, p < .01$), greater negative peer commitment ($b = .17, p < .001$), and fewer prosocial peers ($b = -.09, p < .05$). Being gang involved is also associated with increases in both violent and nonviolent delinquency, with youth indicating a 38 percent increase in violent delinquency ($b = .32, p < .001$) and a 17 percent increase in nonviolent delinquency ($b = .16, p < .001$).¹⁰ Similar to our delinquent group results, we find that moving from a typical group to a

gang has no effect on changes in empathy, self-centeredness, or school commitment. Unlike the effect of delinquent group involvement on hitting neutralizations, we find that gang membership does not increase agreement with hitting neutralization statements.

Rotating the reference group allows us to compare the effect of being in a gang relative to being in a delinquent peer group. That is, the results in Table 3 include the delinquent peer group as the reference category in order to examine whether gang involvement is associated with changes beyond involvement with a delinquent group. Turning to the row labeled “Gang” in Table 3, our results indicate that few changes occur during periods of gang membership versus delinquent group involvement. Consistent with our hypothesis, however, youth experience less commitment to school during periods of gang membership ($b = -.06, p < .05$). However, contrary to our expectations, agreement with hitting neutralizations decreases while youth are gang-involved ($b = -.10, p < .05$). In line with the notion that gang members are more violent than other delinquent groups, our findings reveal that gang membership is associated with a 39 percent increase in violent delinquency frequency ($b = .33, p < .001$).¹¹ We do not find that gang membership influences guilt, empathy, self-centeredness, negative peer commitment, proportion of prosocial peers, or nonviolent delinquency when compared with periods of adolescent group involvement.

Discussion and conclusion

Prior research consistently finds that youth are more violent and hold more deviant attitudes during periods of active gang involvement compared to when they are not in a gang (Esbensen and Carson 2012; Esbensen and Huizinga 1993; Melde and Esbensen 2013). Furthermore, these findings hold even when controlling for the presence of delinquent peers or belonging to a delinquent peer group (Battin et al. 1998; Dong and Krohn 2016; Gatti et al. 2005; Gordon et al.

2004; Thornberry et al. 2003). Some researchers argue that gangs are simply on the extreme end of a delinquent peer group continuum (Miller 1982), while others state that gang youth are somehow qualitatively different from youth in a delinquent peer group (Klein 1995; Klein and Maxson 2006; Moore 1991). Researchers have primarily used group processes to explain the central difference between gang members and youth in delinquent groups—increased violence. The current study builds on prior research by examining these qualitative differences through the lens of social cognitive theory, which argues that individuals are driven by the interaction between behaviors, cognition/affect, and environmental influences (Bandura 1986).

In social cognitive theory, Bandura (1986, 1991) argues that social influences impact self-regulation and adherence to moral standards as well as facilitate activation and disengagement. Gangs and delinquent groups act as social influences in the lives of their members, which impacts their attitudes and behaviors by changing their self-regulation processes, providing collective immoral standards, and facilitating moral disengagement strategies. We find evidence that delinquent group involvement affects self-regulation to some degree. Gang and delinquent group membership are associated with decreased guilt, but guilt is not further altered during periods of active gang involvement. Contrary to our findings regarding anticipated guilt, our results provide no evidence that changes in group status affect self-regulation with regard to empathy and self-centeredness. One likely explanation for this unexpected finding is the fact that the measurement of these variables differs with respect to their frame of reference. Within the G.R.E.A.T. survey, guilt is a measured response to situations (e.g., “How guilty or badly would you feel if you attacked someone with a weapon?”). Meanwhile, empathy and self-centeredness include more global measures (e.g., “I worry about how other people feel,” “If things I do upset people, it’s their problem not mine.”). As such, the

measurement of these variables is reflective of two different types of personality concepts: state (guilt) versus trait (empathy and self-centeredness). Trait mechanisms are not only relatively resistant to change (Allport and Odbert 1936), but prior research indicates that global attitudes and situational attitudes do not necessarily correspond to one another (Thomas 2017).

Upon joining a gang, members may become more isolated from out-groups and experience reinforced commitment to the gang. Our findings suggest that periods of delinquent group involvement and gang membership are associated with increased commitment to delinquent peers; yet there is no significant change in negative peer commitment as youth fluctuate between periods of gang membership and delinquent group involvement. We also find that youth report significantly fewer prosocial peers only when moving from typical groups to gangs. Our findings regarding school commitment provide some evidence that gang membership uniquely attenuates youth's conventional bonds, but this relationship appears to be more complex: as youth shift from delinquent groups to gangs, they report decreased commitment to school, but a similar effect is not seen in the transition from typical to delinquent groups or from typical groups to gangs. The fact that we find a decrease in school commitment for the transition from delinquent groups to gangs but not from typical groups to gangs is curious and we can only speculate that this finding is due to idiosyncrasies in the fixed-effects model. Specifically, the transition from typical group to delinquent group is associated with a nonsignificant increase in school commitment, thus indicating that the coefficient difference between delinquent group and gang membership is slightly larger than the difference between the typical group and gang member. Together, these findings regarding conventional and unconventional bonds suggest that the processes that reinforce commitment to delinquent peers are similar for gang youth and those

involved in delinquent peer groups, but isolation from prosocial peers and attenuation of prosocial bonds appear to be unique to gang membership.

Our results also provide some support for the idea that social influences facilitate activation and disengagement of self-regulation by creating cognitive dissonance. We find that agreement with hitting neutralizations increases when youth move from a typical to delinquent group, but not when youth move from a typical group to a gang. Surprisingly, we find reduced agreement with hitting neutralizations as youth move from delinquent groups to periods of active gang involvement. This unanticipated finding may reflect differences in-group processes related to gang versus delinquent group membership. We speculate that if violence is considered normative within gangs and gang norms and beliefs supersede those held by groups outside of the gang, then gang-involved youth do not have a need to rationalize violent behavior. In other words, cognitive dissonance does not exist or is less prominent for gang members because violent resolutions are morally acceptable.

Finally, consistent with prior research, we find the most substantial differences in offending. Compared with typical group membership, periods of delinquent group involvement are marked with increases in nonviolent offending, but not violent offending. Meanwhile, gang membership is associated with increases in violent, but not nonviolent, delinquency. This finding is consistent with prior work, which indicates that the unique effect of gang membership does not extend to property offending (Alleyne and Wood 2010; Battin et al. 1998; Melde and Esbensen 2013; Melde, Esbensen, and Carson 2016; Tita and Ridgeway 2007). Some researchers have argued that violence is a central and normative feature in the lives of gang youth (Decker 1996; Hughes and Short 2005). While our findings cannot explain the causes of increased violence during active gang membership, we know from prior research that increased violence throughout

the tenure of gang membership may be related to initiation and desistance processes as well as inter- and intra-gang violence (Carson, Peterson, and Esbensen 2013; Carson and Vecchio 2015; Decker and Van Winkle 1996; Pyrooz and Decker 2011). As SCT suggests, individual beliefs, behavioral patterns, and environmental influences interact to shape one another. Thus, to understand why gang members are more violent than their nongang peers, it is necessary to examine the interconnectedness of these systems. Overall, our results suggest that while general delinquent group processes drive changes in negative peer commitment, guilt and nonviolent delinquency, something unique about the gang results in changes in school commitment and violent offending. While our research examines only the direct relationships between various types of group membership and our outcomes, this work provides an important piece of the puzzle. Further work is needed to determine what explains increases in violence during periods of active gang involvement, but according to the principles of SCT, delinquent peer group membership may serve as the gateway to changes in youth's attitudes and offending.

This research, along with similar work, is concerned with the effects of group membership on individual-level behaviors and attitudes. While our study highlights differences in the individual-level consequences of gang versus delinquent group membership, additional work is needed to understand how group processes shape individual-level outcomes. Further research at the group level is needed to continue to identify how gangs differ from delinquent groups (for similar calls for group-level research, see Decker, Melde and Pyrooz 2013; Hughes 2013; McGloin and Collins 2015; McGloin and Decker 2010; Pyrooz, Sweeten, and Piquero 2013), particularly with regard to group processes and other variables that are commonly associated with violence (e.g., subculture of violence, routine activities).

It is worthwhile to note that our work also highlights the transient nature of gang membership as well as involvement in delinquent groups. When examining within-person change in-group status, youth belonging to a gang or delinquent group spent less than half of their observed time in one of these two groups. This finding is not only in line with prior research that states that youth only remain in a gang for two years or less (Esbensen and Huizinga 1993; Thornberry et al. 1993) but extends it to youth in a delinquent peer group as well. This finding, however, is not consistent with Warr's (1993) work, which argues that delinquent peers are "sticky friends" that youth become entrenched with over multiple years. These disparate findings may be due to measurement differences in delinquent group membership (i.e., belonging to a delinquent group versus involvement with delinquent friends) or to the relatively minor offenses studied by Warr (1993).

By estimating fixed-effects models, our results provide strong evidence that within-individual changes occur when youth move between different groups even when controlling for time-stable covariates, but interpretation of our findings requires some context. This approach differs from much of the literature reviewed in this paper because it examines within-individual change rather than between-person differences. Thus, while prior research that has focused on group-level variation between gang and nongang members has found differences in self-centeredness, for instance (Matsuda et al. 2013; Melde and Esbensen 2011, 2014; Peterson and Morgan 2014), we do not report similar findings at the individual level. It may be the case that while self-centeredness, among other variables, are risk factors for gang membership, they are typically stable within-person characteristics across group membership status. It is also important to note that our models assume that youth's decisions to become involved in different types of peer groups are time-invariant. Prior research, however, has concluded that self-report data may

change over time due to maturation or changes in respondents' interpretations of the survey questions (see Lauritsen 1998). These issues are of concern for our results regarding gang membership, in particular, because self-nominated gang membership may capture changing definitions of what it means to be a gang member. While self-nomination strategies have been shown to be reliable and valid measures for decades (Decker et al. 2014; Esbensen et al. 2001; Thornberry et al. 2003), we are cognizant of the fact that youth who consider themselves gang members at one point may fit the criteria for delinquent group membership at a different time point despite few, if any, changes in their peer group.

Given the unique "gang effect," our findings are supportive of programs that target gang youth. In particular, our work highlights the unique impact of gang membership on school commitment and violent delinquency. We caution practitioners and policy-makers, then, against interventions (i.e., suppression tactics, civil gang injunctions, zero-tolerance policies) that may drive gang youth closer to their peers and deepen the divide between conventional institutions and antisocial groups (Klein and Maxson 2006; Wiley, Carson, and Esbensen 2016).

Alternatively, efforts should be made to enhance prevention and intervention programs that address the social isolation and marginality of gang youth such as engaging them with prosocial peer groups or school groups (Goldman, Giles, and Hogg 2014; Katz et al. 2011). That said, the work presented here also highlights the detrimental impact of spending time with a delinquent group on moral beliefs, commitment to delinquent peers, and nonviolent offending. It is important, therefore, that practitioners and policymakers take note of youth who simply spend time with deviant peers, a sentiment that has been echoed elsewhere (Dong and Krohn 2016).

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Figure 1. Prevalence of Group Membership

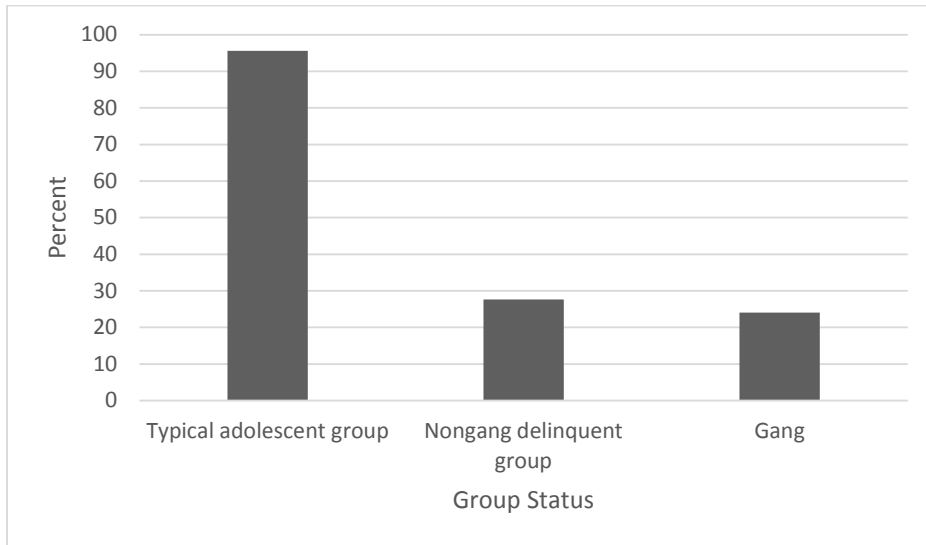


Figure 2. Within-person Variability in Group Membership

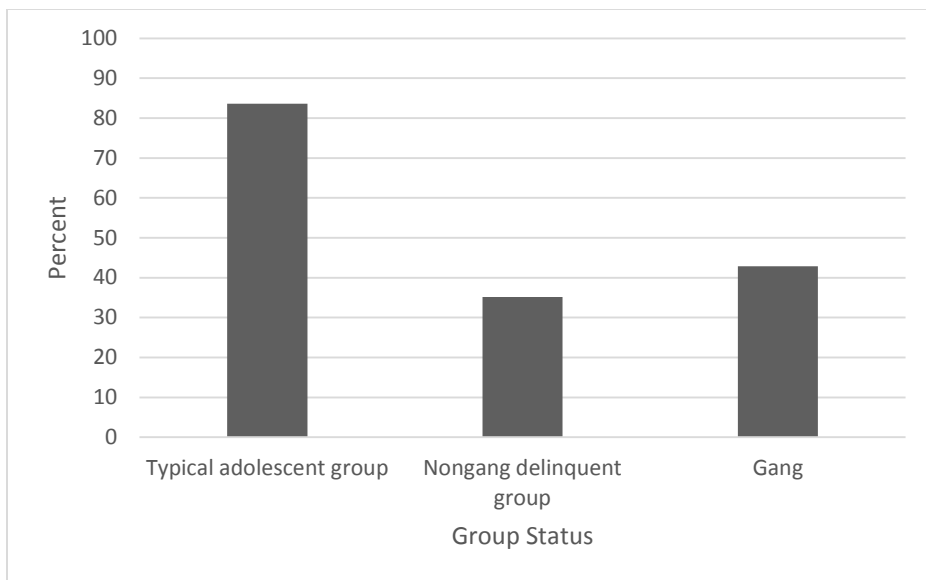


Table 1. Sample Descriptives for Overall, Between-person, and Within-person Observations

Variable	Overall Sample				Between-	Within-
	Mean	SD	Min	Max	person	person
Age	13.25	1.60	10	19	.66	1.46
Parental monitoring	4.07	.76	1	5	.56	.52
Impulsivity	2.75	.81	1	5	.58	.57
Risk-seeking	2.70	.96	1	5	.74	.62
Anger	3.01	.99	1	5	.78	.62
Stealing neutralizations	1.87	.90	1	5	.67	.60
Delinquent peers	1.47	.66	1	5	.50	.46
Substance use frequency	.80	1.98	0	16	1.39	1.46
Victimization frequency	9.33	14.28	0	121	10.66	9.89
Perceived disorder	1.69	.52	1	3	.41	.32
Guilt	2.49	.60	1	3	.42	.44
Empathy	3.61	.67	1	5	.51	.45
Self-centeredness	2.41	.83	1	5	.63	.54
Negative peer commitment	1.92	.99	1	5	.71	.70
Prosocial peers	3.45	.95	1	5	.71	.63
School commitment	3.73	.74	1	5	.57	.47
Hitting neutralizations	3.39	1.17	1	5	.90	.75
Nonviolent delinquency frequency	4.79	10.93	0	99	8.07	7.67
Nonviolent delinquency frequency (logged)	.93	1.14	0	4.61	.86	.76
Violent delinquency frequency	2.28	6.03	0	55	4.47	4.26
Violent delinquency frequency (logged)	.55	.92	0	4.03	.70	.62

NOTES: number of youth = 3,319.

ABBREVIATIONS: SD = standard deviation, Min = minimum, Max = maximum

Table 2. OLS Regression: Fixed-Effects Analysis of Nongang Delinquent Group and Gang Membership (versus typical group) on Outcomes

	Outcomes																	
	Guilt		Empathy		Self-centeredness		Negative Peer Commitment		Prosocial Peers		School Commitment		Hitting Neutralizations		Nonviolent Delinquency (logged)		Violent Delinquency (Logged)	
	b	SE	b	SE	b	SE	b	SE	b	SE	b	SE	b	SE	b	SE	b	SE
Nongang Delinquent Group	-.09***	.02	.04	.02	-.02	.02	.11**	.03	-.05	.03	.03	.02	.08*	.03	.20***	.03	-.02	.03
Gang	-.07**	.02	-.01	.02	-.02	.03	.17***	.04	-.09*	.03	-.03	.02	-.02	.04	.16***	.04	.32***	.03
Intercept	2.96***	.10	2.46***	.11	2.23***	.13	1.71***	.17	1.78***	.16	3.31***	.11	2.07***	.20	-.27	.15	.51***	.14

NOTES: number of youth = 3,319, number of time points = 13,454. Time-invariant control variables omitted from table.

ABBREVIATIONS: OLS = Ordinary Least Squares, SE = standard error

*p<.05, **p<.01, ***p<.001

Table 3. OLS Regression: Fixed-Effects Analysis of Typical Group and Gang Membership (versus delinquent group) on Outcomes

	Outcomes																	
	Guilt		Empathy		Self-centeredness		Negative Peer Commitment		Prosocial Peers		School Commitment		Hitting Neutralizations		Nonviolent Delinquency (logged)		Violent Delinquency (Logged)	
	b	SE	b	SE	b	SE	b	SE	b	SE	b	SE	b	SE	b	SE	b	SE
Typical Group	.09***	.02	-.04	.02	.02	.02	-.11**	.03	.05	.03	-.03	.02	-.08*	.03	-.20***	.03	.02	.03
Gang	.03	.02	-.04	.03	-.01	.03	.06	.04	-.04	.04	-.06*	.03	-.10*	.04	-.04	.04	.33***	.04
Intercept	2.87***	.10	2.50***	.12	2.21***	.13	1.82***	.17	1.73***	.16	3.34***	.11	2.15***	.20	-.07	.16	.50**	.15

NOTES: number of youth = 3,319, number of time points = 13,454. Time-invariant control variables omitted from table.

ABBREVIATIONS: OLS = Ordinary Least Squares, SE = standard error

*p<.05, **p<.01, ***p<.001

¹It is important to note that youth who belong to a typical adolescent group may participate in delinquency with some of their friends, but they did not indicate that they participated in illegal activities as a group.

²Due to an under-representation of African American youth in Chicago schools obtained in the 2006 sampling effort, two additional schools were included in the evaluation, beginning during the 2007-2008 school year (Esbensen et al. 2012).

³We examined differences between the excluded sample and our analysis sample. Demographically, the excluded sample includes a slightly greater proportion of males as well as youth categorized as black or other race and a smaller percentage of white youth. In terms of group involvement, the excluded sample represents more observations during gang involvement (excluded = 14.2%, final analysis = 9.8%) and less delinquent group membership (excluded sample = 7.3%, final analysis = 9.7%). The excluded sample has lower agreement with hitting neutralizations, less empathy, more self-centeredness, less negative peer commitment, fewer prosocial peers, greater commitment to school, and are less delinquent in terms of both violent and nonviolent offenses. Thus, while these differences indicate that excluded youth are more likely to be gang involved, display reduced tendencies for delinquent attitudes and norms, less delinquency, and less delinquent group involvement.

⁴It is important to note that the use of multiple measures of gang involvement is common in prior literature (Alleyne et al. 2016; Lachman, Roman, and Cahill 2013).

⁵ For this and all other mean scale variables, scales were created if at least half of the included items had nonmissing values.

⁶We recognize that this last item, involvement in gang fights, could potentially drive differences when comparing periods of gang membership and delinquent group membership because youth are more likely to be involved in gang fights during periods of active gang membership. We compared the findings reported in this paper to results using only the first four items and the results do not change substantively.

⁷Although variety scales are preferable over logged frequency outcomes because they are not driven by less serious high-frequency items and have been found to possess high reliability and validity (Sweeten, 2012), negative binomial regression analysis cannot be used for true fixed-effects modeling because it cannot control for time-stable variables (see Allison and Waterman 2002). We examined the robustness of our results using a negative binomial fixed/random-effects hybrid model with a count nonviolent delinquency outcome. These supplemental analyses are discussed in subsequent endnotes.

⁸ These percentages are based on time points for which we have available data. For example, youth who were in a gang at two waves, but only have available data for two waves, are in a gang for 100% of their time points. While this may overinflate the percentage of time youth appear to be gang involved, the alternative is to drop any youth who have fewer than six waves of data, which limits our sample substantially.

⁹ Because the delinquency outcomes are log-transformed, the results are interpreted as a percent change in delinquency based on the following equation: $(\exp(b)-1)*100\%$

¹⁰ Because a logged frequency measure of delinquency is not ideal (see footnote 7), and negative binomial fixed-effects for a count outcome cannot control for time-stable variables, we examined the results using a negative binomial hybrid model. While this model could not be examined for violent delinquency due to convergence issues related to variability in the count outcome, we present the fixed- and random-effect results for the nonviolent delinquency outcome here, interpreted as incident rate ratios. As compared with periods of typical group membership, periods of delinquent group membership are associated with a 1.26 times greater delinquency variety ($b = .23$, $SE = .03$, $p < .001$). Meanwhile, periods of gang membership are associated with a 1.27 times greater variety of nonviolent offenses ($b = .24$, $SE = .03$, $p < .001$). The coefficients that represent the random effects in the hybrid model indicate that the between-person differences are also significant: delinquent group members report nonviolent delinquency variety at a rate 1.56 times greater than youth in a typical peer group ($b = .44$, $SE = .08$, $p < .001$), while gang members report 1.34 times more nonviolent acts ($b = .29$, $SE = .07$, $p < .001$). The complete results are available from the corresponding author.

¹¹ Again, hybrid model results are available only for the nonviolent delinquency variety outcome, but consistent with our OLS fixed effects model, the within-person effect of gang membership, as compared with delinquent group involvement, is not significant ($b = -.002$, $SE = .03$, $p = .962$). Meanwhile, the random-effects or between-person coefficient indicates that youth in a gang offend at a rate of .86 times that of delinquent group members ($b = -.16$, $SE = .08$, $p = .05$).