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Gang Membership and Adherence to the “Code of the Street”

Kristy N. Matsuda, Chris Melde, Terrance J. Taylor, Adrienne Freng and Finn-Aage Esbensen

Gang members have been found to engage in more delinquent behaviors than comparable nongang youth. Few empirical attempts have been made to identify the group processes associated with the gang experience that lead to such noteworthy behavioral outcomes. While not developed to explain gang behavior, Elijah Anderson’s “code of the street” framework may prove insightful. Utilizing data from a diverse school-based sample of 2,216 youth, we examine the efficacy of street code-related variables to explain gang members’ heightened involvement in violent offending. Utilizing methods based on a potential outcomes framework, results suggest that joining a gang facilitates greater ascription to street code-related attitudes and emotions, and these constructs partially mediate the relationship between gang joining and the increased frequency of violent offending.

Keywords gangs; street code

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Introduction

Research has consistently shown that gang members engage in more general delinquency and more violent offending even when compared to highly delinquent nongang youth (e.g. Battin, Hill, Abbott, Catalano, & David Hawkins, 1998; Craig, Vitaro, & Gagnon, 2002; Spergel, 1990; Thornberry, 1998; Wolfgang, Figlio, & Sellin, 1972). Furthermore, simply associating with gangs, without claiming membership, increases the rate of offending as compared to youth with no such associations (Curry, Decker, & Egley, 2002). In fact, the rate of individual offending increases during gang membership even after controlling for known risk factors for delinquency and gang involvement (Haviland, Nagin, & Rosenbaum, 2007; Melde & Esbensen, 2011; Thornberry, Krohn, Lizotte, Smith, & Tobin, 2003). Delinquency and violence are not solely related to characteristics of the individuals that join gangs (selection effects), but result from membership in the group. Gang membership often facilitates or enhances the delinquent behavior of its members, once they join (Esbensen & Huizinga, 1993; Gatti, Trembley, & Vitaro, 2005; Gordon et al., 2004; Lacourse, Nagin, Tremblay, Frank Vitaro, & Clares, 2003; Thornberry et al., 2003; Thornberry, Krohn, Lizotte, & Chard-Wierschem, 1993).

The question remains, however, what is it about gang membership that leads to an increase in delinquency and violence? Numerous theories have attempted to explain why gangs are oriented toward deviance (Cloward & Ohlin, 1960; Cohen, 1955; Decker & Van Winkle, 1996). Empirical demonstrations of the specific mechanisms related to gang membership that result in more involvement in violence, however, remain elusive (for an exception see Melde & Esbensen, 2011). Though gangs were not his focus, Anderson's (1994, 1999) "code of the street" framework outlines a host of reasons and circumstances in which violence occurs and could provide insight into the reasons that gang members participate in more violent activities. The purpose of this research is to investigate whether Anderson's notion of the "code of the street" can explain the disparity in violent offending by gang and nongang members. In other words, is the reason that gang membership increases involvement in violence because these groups enhance street code-related beliefs and behaviors? Knowing the true nature of this relationship could assist in targeting both prevention and intervention efforts, perhaps making them more effective in addressing both gangs and associated violence. Unlike prior quantitative research examining the street code, we more fully operationalize the many facets related to the street code through a simultaneous examination of the impact of gang membership on these mechanisms and their effect on violent behavior.

Anderson's Code of the Street

In his ethnography, *Code of the Street*, Anderson (1994, 1999) explored how a subculture steeped in issues of respect and violence developed in inner-city

Philadelphia. Anderson (1994, 1999) proposed that structural characteristics of inner-city Philadelphia communities, particularly endemic poverty, unemployment, a perceived lack of quality in basic public services (e.g. police and maintenance), and discrimination led to widespread feelings of isolation and mistrust in the legal system. With no trust in the law, and as an adaptation to a feeling of alienation from mainstream society, some people in the community grew to reject “white,” middle-class notions of success and status in favor of the more achievable option of respect realized through toughness. Thus, the “code of the street” developed.

The “code of the street” is a set of informal rules that dictates the threat and use of violence in public interactions and prioritizes these displays as a means to achieve and maintain respect, especially among the young (Anderson, 1994, 1999). According to Anderson (1999, p. 33), the code regulates “the use of violence and so supply a rationale allowing those who are inclined to aggression to precipitate violent encounters in an approved way.” The central issue at stake is respect (i.e. being treated with respect and giving it when deserved). The code provides the rules for negotiating respect. One’s own respect must be effectively defended, for it is both a prized commodity and allows one to navigate public life safely. Those socialized in the code learn that “might makes right,” to think of themselves first, fight if challenged, and that the toughest will prevail (Anderson, 1994, 1999). Individuals who subscribe to the street code learn to present themselves in a manner consistent with these notions (e.g. dress, demeanor, and talk), engage in a “campaign for respect” to convince others of their status, including the display of “nerve” (i.e. the lack of fear of violence or injury) when challenged (Anderson, 1994, 1999).

Anderson (1994, 1999) does not claim that an entire subgroup (e.g. all black residents) subscribes to the subculture. He distinguishes between two distinct orientations: “street” and “decent.” “Street-oriented” people adopt the notion that respect is a valued commodity, and that violence and strong-armed tactics are the most appropriate way to achieve that goal. Those who are “decent” subscribe to mainstream social values and strive for success using traditional—and nonviolent—methods whenever possible. Though “decent people” do not accept the values associated with the code as morally appropriate, given the pervasiveness of the code on inner-city streets, they learn to behave in ways consistent with both “decent” and “street” values (i.e. code switch) depending upon the situation and context in which they find themselves. Thus, decent individuals must not only present the appearance of being willing, but must be ready to use violence in certain situations so as not to appear “soft.” The appearance that one can fend for him/herself, however, is a sort of defense mechanism, with individuals hoping that the appearance will never actually be tested (Anderson, 1994, 1999). This notion that violence is situational has led Cullen and Agnew (2003, p. 159) to tout the code of the street as “perhaps the best description of a subculture of violence now available.”

Qualitative and quantitative support for most of the major aspects of Anderson’s framework exists (Brezina, Agnew, Cullen, & Wright, 2004;

Brookman, Bennett, Hochstetler, & Copes, 2011; Drummond, Bolland, & Waverly, 2011; Jones, 2008; Parker & Reckdenwald, 2008; Stewart & Simons, 2006, 2010; Taylor, Esbensen, Brick, & Freng, 2010). Past studies on youth violence support Anderson's contention that those youth who strongly ascribe to the code are more likely to engage in violence (Brezina et al., 2004). Stewart and colleagues (with Simons, 2006, 2009, 2010; and with Schreck & Simons, 2006), who have perhaps examined Anderson's framework most extensively, have found that many of the components of Anderson's theory, including the role of violent friends, strain, discrimination, "street" orientation, and neighborhood disadvantage result in increased ascription to the street code. Furthermore, both individual and neighborhood levels of street code adherence mediate the effect of individual and community level correlates of future violence (Stewart & Simons, 2006, 2010).

Gangs and the Code of the Street

In public the person whose very appearance—including his or her clothing, demeanor, and way of moving, as well as "the crowd" he or she runs with, or family reputation—deters transgressions feels that he or she possesses, and may be considered by others to possess, a measure of respect. Much of the code has to do with achieving and holding respect. And children learn its rules early. (Anderson, 1999, pp. 66-67)

It is somewhat surprising that the "code of the street" framework has not been more readily applied to gangs and their influence on individuals and the community (although see McGloin, 2008). Gangs have been found to provide a semi-structured social setting (i.e. a "crowd") in which the value of violence, or the threat of violence, is learned, enacted, and reinforced (e.g. Decker & Van Winkle, 1996; Hagedorn, 1988; Moore, 1978, 1991; Thrasher, 1927; Winfree, Backstrom, & Mays, 1994). In fact, violence has been identified as the primary factor differentiating gangs from other delinquent youth groups (Decker, 1996; Klein, 1971).

While specific mention of criminal street gangs is notably absent from Anderson's analysis, his work provides some potential insight into the processes associated with such groups that leads to heightened involvement in violence among gang joiners. From a learning theory perspective, gang membership may heighten violence among its members through exposure to peers that model violent behavior and reinforce values favorable toward violence as a method to achieve and maintain respect. That is, to the extent that gang involved peers model violent behavior—especially if their behavior is reinforced—youth who initiate gang involvement may imitate their peers' behavior. Involvement in gangs may also emphasize and reinforce the pro-street lifestyle, where displays of toughness, street smarts, unpredictability, and "nerve," as Anderson (1999) refers to it, are valued commodities (e.g. Decker & Van Winkle, 1996; Miller, 1958). An emphasis on gang-enacted

revenge or retaliation is expected (Decker, 1996; Klein, 1971). The importance of learning the ways of street culture—especially violence—is amplified in gangs through interactions with like-minded gang members (see, e.g. Klein's (1971) discussion of "mythic violence"). Gangs also provide youth with an important sense of identity (Decker, 1996; Klein, 1971) and status (Cohen, 1955; Miller & Brunson, 2000; Short & Strodtbeck, 1965). Like the "street-orientation" discussed by Anderson, gang youth are expected to be ready for violent confrontations with rival gangs or the police, and the idea that they can only rely upon themselves and their fellow gang members for protection is reinforced (Decker, 1996; Melde, Taylor, & Esbensen, 2009). Gangs, thus, maintain a set of values resembling Anderson's description of the "code" that condones, and thereby legitimates, the use of violence (e.g. Cloward & Ohlin, 1960; Cohen, 1955; Wolfgang & Ferracuti, 1982).

In addition to providing a subculture that emphasizes violence and toughness, gang membership is also related to exposure to other code-related attitudes and conditions. For example, the lack of confidence in legitimate institutions leads subscribers of the code to view them as a characteristic of the dominant "white society"—at best incapable of improving quality of life for inner-city residents and at worst reinforcing the disadvantaged status of residents. Thus, street people shy away from cooperation with mainstream institutions like police (Anderson, 1994, 1999). Tenuous relationships with police (Alonso, 2004) and a general distrust of law enforcement (Curry & Decker, 2003) also characterize gang members' attitudes. Despite these similarities, a direct connection between gang membership, the code, and perceptions of law enforcement has not been established.

Those enmeshed in the street code also ascribe to and demonstrate a self-centered view of their social world (Anderson, 1999). The code dictates that one think of himself/herself before anyone else. In these environments, the street orientation results in people being wary of each other and taking the approach of "watching their own backs." Street parents also often place their concerns before others and as a consequence, they often display erratic, harsh (sometimes abusive), and ineffective parenting styles, also seen in gang families (Anderson 1999; Klein & Maxson, 2006). In particular, children of street parents generally lack careful supervision (Anderson, 1994), similar to the parenting practices consistently shown to be related to gang membership (Klein & Maxson, 2006).

Lack of parental monitoring may in turn lead to gang joining, commitment to negative, or delinquent peers; and a subsequent increase in delinquency and violence as youth turn to their peers as a primary model for socialization. Youth are often encouraged by their peers to act out and engage in delinquency (Anderson, 1999). Similarly, a gang's ability to effectively transmit delinquent norms and beliefs to its members has been of paramount concern. Gangs provide the social forum for the modeling of delinquency and encourage, if not demand, a heightened degree of commitment to delinquent peers for membership (Decker & Van Winkle, 1996; Hagedorn, 1988; Moore, 1978, 1991; Thrasher, 1927; Winfree et al., 1994). The lack of parental monitoring

and the association with delinquent peers is central to a youth's "campaign for respect." According to Anderson (1999), youth must display their toughness in public with their peers present. Street code interactions occur while youth are "hanging out" in "staging areas." According to Anderson (1999, p. 77), staging areas are public places where many people congregate and can either be inside or outside but are often settings with "little or no adult supervision, where alcohol and drugs are available." This is strikingly similar to street gang youth, as research shows that gang membership increases the time members spend just "hanging out" together (Klein, 1995) often drinking and/or engaging in recreational drug use (Melde & Esbensen, 2011).

Additionally, for street involved and/or gang involved youth to participate in violence, a number of other emotive states and rationalizations are likely present (e.g. anger identity, little guilt, and neutralizations for violence). Anderson (1994, 1999) describes street people as rough, tough, and quick to anger. The code is also largely a defensive tactic used as retribution for others' transgressions (Anderson, 1999). Therefore, while street people may be faster to express anger than decent individuals, they may also be equipped with neutralizations and definitions of the situation that make it easier to justify acting violently (see, e.g. Sykes & Matza, 1957). Importantly, unlike the street code that advocates violence as a method to gain respect, techniques of neutralization may be used to assuage feelings of guilt by rationalizing violence as a means of self-defense or in defense of loved ones.

The code of the street can also lead to violence by producing anticipated shame for not standing up for oneself or demanding respect. Gilligan (2003, p. 1165) suggests that

for shame [as a result of someone disrespecting you] to produce violence ... either the individual has not yet developed the capacity for the emotion that inhibits violence toward others—namely, guilt and remorse—or the situational circumstances present at the time diminish or neutralize whatever guilt feelings the person would otherwise have felt.

Anderson's notion of the lack of remorse also suggests that the lack of guilt may also be necessary to fully ascribe to the code. Melde and Esbensen (2011) found that gang membership systematically reduces anticipated guilt among adolescents, which suggests that the gang may provide situational contexts and/or normative standards that diminish or neutralize anticipated guilt and increase the use of neutralizations towards violence among its members, and thus may increase offending (Esbensen, Peterson, Taylor, & Freng, 2009; Maxson, Matsuda, & Hennigan, 2011).

Summary

In summary, the correlation between gang membership and increased violent and serious offending represents "one of the most robust" findings in the gang

literature (Thornberry, 1998, p. 147). Despite what we know about the unique contribution of gang membership on the behavior of its members, what is not clear is *why* gangs have such a profound effect on youths' offending (Gatti et al., 2005; Gordon et al., 2004; Lacourse et al., 2003; Thornberry et al., 1993). Even though evidence that an increased adherence to the street code is related to higher levels of violence (Brezina et al., 2004), the "street code" has yet to be tested as a reason for the higher levels of violence associated with gang membership, specifically. There is reason to consider expanding the "code of the street," as research suggests that many elements of the code are synonymous with gang culture (McGloin, 2008).

The current study draws upon concepts related to Anderson's (1994, 1999) "code of the street" framework to explore the potential mechanisms underlying the noted effect of joining a gang on violent behavior. In other words, this study examines whether gang members engage in more violence because they more strongly ascribe to attitudes, beliefs, and behaviors consistent with the "code of the street." This is not a test of the entire code of the street framework; however, we do examine the influence of the code (i.e. beliefs in violence as a way to gain and maintain respect) and other attitudes, beliefs, and behaviors that have been posited to be correlated with the code, on violent behavior. These related attitudes, beliefs, and behaviors include community and family indicators that accompany code formation like perceptions of police and parental monitoring. We also include other attitudinal or emotive states that are likely to accompany code ascription like anger identity, anticipated guilt, and neutralizations for violence, along with important peer relationship factors (e.g. commitment to negative peers, unstructured socializing, and peer delinquency).

Specifically, this research will examine two research questions exploring the influence of the street code on violent offending. First, does joining a gang increase adherence to the street code? Second, does this increased adherence to the street code among those joining gangs help explain their increased involvement in violent offending? In so much as gangs are a source of street socialization, we would expect that membership in these groups will be associated with greater acceptance of the norms, values, and behaviors associated with the street code relative to nongang youth. In accordance with Anderson's (1999) discussion of street socialization, we would also expect that greater acceptance of the street code will mediate the relationship between gang membership and violent offending.

Methodology

To examine the adequacy of Anderson's "code of the street" framework to explain the disproportionate involvement of gang members in acts of violence, we use data collected from the second National Evaluation of the Gang Resistance Education and Training (GREAT) program. The GREAT program is a

school-based gang and violence prevention program. The longitudinal evaluation of the program began in 2006 with 3,820 students in seven cities across the USA.¹ Active parental consent for the study sample was 78% (Esbensen, Melde, Taylor, & Peterson, 2008). Students were located each year at their schools and asked to complete a pre-test (wave 1), post-test (wave 2), and four yearly follow-ups (waves 3, 4, 5, and 6) (for details on the evaluation, see Esbensen, Peterson, Taylor, & Osgood, 2012). In the current study, we utilize the first- and second-year follow-up surveys (waves 3 and 4). The retention rate for wave 3 was 87.3% and for wave 4 82.8%.

In order to determine the unique impact of gang membership on adherence to the street code and involvement in violent crime, we focus our analysis on a comparison of youth who did not self-report involvement in a gang prior to wave 3. We concentrate on waves 3 and 4 because measurement of some street code-related attitudes was not included in waves 1 and 2. Further, to be included in the current study, respondents required valid data at both waves. The exclusion of self-reported gang members prior to wave 3, as well as respondent attrition and missing data, led to a total of 2,206 youth who were eligible for inclusion in this study. Overall, the sample had slightly more females (52%) than males, and youth who self-reported being "Hispanic/Latino" represented the largest racial/ethnic group (36%), followed by nonHispanic whites (31%), black youth (14%), and adolescents who reported mixed race/ethnicity (8%). Native American (4%), Asian (4%), and youth who reported being some "other" (3%) race/ethnicity represented about 11% of the total sample. The mean age at wave 3 was 12.60 ($SD = .74$), with respondents ranging in age from 10 to 16 years.

Measures

Gang membership

To designate between gang and nongang youth, respondents were asked "Are you currently a gang member?" at each wave of data collection. Those who responded "yes" at wave 4 and had not indicated gang membership at any prior wave were included as gang joiners in the sample. Gang members at previous waves were excluded from the analysis as prior membership would bias our estimates of the effect of gang joining on street code-related attitudes and violent delinquency. Nongang members never indicated gang membership through wave 4. While there is debate as to the best manner in which to measure gang membership, research suggests that self-report methods are robust indicators of gang involvement (Esbensen, Winfree, He, & Taylor, 2001; Thornberry et al., 2003).

1. The seven cities were selected based on population and geographic diversity, the presence of an established GREAT program, and the volume of gang activity (as verified by the National Gang Center). The cities included are Albuquerque, NM; Chicago, IL; Dallas/Forth Worth area, TX; Greeley, CO; Nashville, TN; Philadelphia, PA; and Portland, OR.

Violent delinquency

Self-reported involvement in violent delinquency was measured using a composite frequency score, where youth were asked how many times they had engaged in the following offenses in the previous six months: (1) carried a hidden weapon for protection; (2) hit someone with the idea of hurting him/her; (3) attacked someone with a weapon; (4) used a weapon or force to get money or things from people; and (5) been involved in gang fights.² The mean frequency for violent delinquency was 1.93 (SD = 5.34), with a range from 0 to 55 offenses. Given the severe skew in the data, the natural log of this variable was used in the mediation analyses.

Street code

Belief in the street code was measured using a scale adopted from Stewart and Simons (2006), and is meant to gauge youths' ascription to notions of toughness and physical force as a means to achieve and maintain respect.³ In total, there were seven Likert-scale items included in the scale ($\alpha = .88$), with responses ranging from "strongly disagree" to "strongly agree." Street code items include: (1) when someone disrespects you, it is important that you use physical force or aggression to teach him or her not to disrespect you; (2) if someone uses violence against you, it is important that you use violence against him or her to get even; (3) people will take advantage of you if you do not let them know how tough you are; (4) people do not respect a person who is afraid to fight physically for his/her rights; (5) sometimes you need to threaten people in order to get them to treat you fairly; (6) it is important to show others that you cannot be intimidated; and (7) people tend to respect a person who is tough and aggressive. The sample mean of 2.86 (SD = .85) suggests that most youth in the sample disagreed or were neutral with regard to the appropriateness of the street code. For more information on scale properties, see Taylor and colleagues (2010).

Self-centeredness

We used the four-item self-centeredness subscale from the Grasmick, Tittle, Bursik, and Arneklev (1993) self-control scale to measure the degree to which the respondents placed their concerns before others. Items in the scale ($\alpha = .78$) included statements such as "I try to look out for myself first, even if it means making things difficult for other people," and "If things I do upset

2. Intuitively, it may seem as if including "being involved in gang fights" inherently increases the violent nature of gang members as compared to nongang members. However, in this sample, nongang members actually accounted for a disproportionate amount of those who reported being involved in gang fights. For example, at wave 4, 65.3% of those who reported involvement in a gang fight did not report being a gang member. Thus, involvement in gang fights is retained in the violent offending index.

3. The street code scale by Stewart et al. (2006) was adopted in this research because of its favorable construct validity of the "attitudinal components of the street code," a notion shared by Anderson (Stewart et al., 2006, p. 438).

people, it's their problem not mine." Responses were coded on a five-point Likert scale ranging from "strongly disagree" to "strongly agree." The mean score for the sample was 2.34 (SD = .79).

Anger identity

The survey instrument included the four-item scale developed by Grasmick and colleagues (1993) to measure the anger/temper component of the self-control construct. This measure is consistent with Giordano, Schroeder, and Cernkorich's (2007) concept of anger identity, which they found to be a robust correlate of violent behavior. Examples of items in the scale ($\alpha = .83$) include "I lose my temper pretty easily," and "When I'm really angry, other people better stay away from me." Responses ranged from one equal to "strongly disagree" and five equal to "strongly agree." The mean score on this scale was 2.94 (SD = 1.01).

Violence neutralization

To measure the use of techniques of neutralization related to violent behavior (Sykes & Matza, 1957), we relied upon three questions to determine the circumstances that respondents felt violence was acceptable, including: "It's okay to beat up someone if they hit you first," "It's okay to beat up someone if you have to stand up for or protect your rights," and "It's okay to beat up someone if they are threatening to hurt your friends or family." Answers were collected using a five-point Likert scale, with one equal to "strongly disagree" and five equal to "strongly agree" ($\alpha = .88$). The mean for the sample was 3.35 (SD = 1.18). Factor analyses (not shown) indicate that techniques of neutralization were substantively distinct from the concept of the "street code" as measured by Stewart and Simons (2006) and included here.

Peer delinquency

To assess the extent to which the respondent's peers were involved in delinquent behaviors, a seven-item scale ($\alpha = .89$) asked respondents to report the number of friends they had that were involved in delinquent activities, including acts that ranged in severity from skipping school without an excuse to attacking someone with a weapon. Responses were coded on a five-point scale with one equal to "none of them" and five equal to "all of them." The mean peer delinquency score was 1.45 (SD = .62), which indicated that most youth had between zero to a few (2 = "few of them") friends involved in such activities.

Negative peer commitment

Commitment to deviant peers consists of three items measured on a five-point scale ranging from "not at all likely" to "very likely." The three questions included in the scale ($\alpha = .86$) asked respondents "If your group of friends was getting you into trouble (at home/at school/with the police), how likely is it

that you would still hang out with them?" The mean score for this scale was 1.97 (SD = .99).

Guilt

To measure the respondents' anticipated guilt related to participation in delinquent activities, we used a 13-item guilt scale. The stimulus for the measure stated, "How guilty or how bad would you feel if you," and was followed by statements ranging in severity from "skipped school without an excuse" to "used a weapon or force to get money or things from people." Responses were based on a three-point scale ranging from "not very guilty/bad" to "very guilty/bad" ($\alpha = .92$). The mean guilt score was 2.46 (SD = .60).

Perceptions of the police

Respondent attitudes about police officers were assessed with a five-item Likert scale. Responses ranged from one to five, with one equal to "strongly disagree" and five equal to "strongly agree." Examples of questions included in the scale include "Police officers are honest" and "Police officers are hard-working." The mean score on this scale was 3.41 (SD = .82), indicating that most youth held positive attitudes toward police officials ($\alpha = .91$).

Parental monitoring

Parental monitoring was measured using four-items scored on a five-point Likert scale (1 = strongly disagree to 5 = strongly agree). Statements included items such as "My parents know who I am with if I am not at home," and "My parents know where I am when I am not at home or at school" ($\alpha = .81$). The mean score for parental monitoring at wave 4 was 4.09 (SD = .77), indicating a high level of supervision on the part of parents in the sample.

Unstructured socializing

The degree of unstructured socializing was measured by three items. Respondents indicated whether they "ever spend time hanging around with your current friends not doing anything in particular where no adults are present," "ever spend time getting together with your current friends where drugs and alcohol are available," and if the group "spend a lot of time together in public places like the park, the street, shopping area, or the neighborhood." The mean score of unstructured socializing at wave 4 was 1.67 (SD = .89).

Analysis Strategy

Gang membership cannot be examined experimentally, leaving open the real possibility that those who self-select into such groups are systematically different than those who are not exposed to such a "treatment." In fact, prior

research has demonstrated that the failure to account for the differential tendency for at-risk youth to join gangs could systematically bias estimates (DeLisi, Barnes, Beaver, & Gibson, 2009; Haviland et al., 2007; Krohn & Thornberry, 2008; Melde & Esbensen, 2011). Consistent with Melde and Esbensen (2011), the current study employs propensity score methods to help alleviate the potential influence of self-selection on the impact of gang membership on delinquency, both directly and through our multiple measures of the street code.

To answer the first research question, which examines whether those youths that join gangs have a stronger adherence to the street code than nongang members, we use propensity score matching using the *psmatch2* module (Leuven & Sianesi, 2003) available in Stata 10.0 to create matched groups of gang and nongang members. Probit regression was used to calculate the propensity score, which represents the probability of becoming gang involved for the first time at wave 4 given observed characteristics at wave 3.⁴ The Epanechnikov kernel matching procedure was used to construct the comparison group (Caliendo & Kopeinig, 2008). This technique uses weighted averages for respondents in the control group to construct the counterfactual outcome, where respondents with propensity scores further away from gang member participants receive progressively less weight than comparison cases that more closely resembled those who became gang involved until they reach a predetermined cut-off point where weights are set to zero (i.e. a bandwidth). Analyses are based on a bandwidth of .05, and statistical significance of the average treatment effect on the treated (ATT) was based on bootstrapped (50 replications) standard errors, as suggested by Caliendo and Kopeinig (2008).

In order to determine if Anderson's (1999) code of the street framework can help explain the mechanisms through which gang membership increases involvement in violent behavior, the Preacher and Hayes (2008) technique for assessing direct and indirect effects in multiple mediator models is utilized.⁵ In this technique, propensity scores derived from the previous analysis are utilized as a control variable to help reduce the possibility of confounding (Coffman, 2011).

Results

We begin by examining the success of a propensity score model comparing those who reported involvement in a gang for the first time at wave 4 ($n=52$) with youth who did not report gang involvement up to that time ($n=2,154$) on

4. In addition to the variables provided in Appendix A, all wave 3 measures described in the measures section were included in the calculation of the propensity score. A full description of all variables included in the model is available upon request.

5. Similar to most studies that use delinquency frequency as a dependent variable, our measure is over dispersed (i.e. the variance is greater than the mean), which could lead to biased estimates when using ordinary least squares regression techniques (Osgood, 2000). The dependent variable in analyses using the Preacher and Hayes (2008) method represents the natural log of delinquency frequency plus one to account for this problem (skewness = .984).

46 wave 3 covariates (probit regression results available upon request; $\chi^2 = 102.91$, $p < .001$; $pseudo R^2 = .21$; see Appendix B for all variables included). Thirty of the 46 wave 3 variables used to match the first-time gang joiners to the nongang youth were significantly different (see Appendix B⁶), which suggests that failure to properly account for selection bias related to gang joining for the current sample could lead to inefficient estimates. Fortunately, after using the kernel matching procedure no significant differences between the two groups remained (i.e. all standardized biases were below 20). One gang joiner could not be matched successfully to a nongang youth within our specified bandwidth, and thus this case was dropped from the analysis. These results suggest that the conditional independence assumption was met (Blundell & Costa Dias, 2009; Caliendo & Kopeinig, 2008), so our propensity score analysis is discussed next.

The results indicate support for hypothesis one that joining the gang impacts street-code related attitudes. After controlling for propensity to join a gang, onset of gang membership produced significant mean differences on all wave 4 measures associated with the street code, with the exception of perceptions of the police and use of violence neutralizations. Specifically, joining a gang was associated with greater acceptance of norms associated with the street code ($ATT^7 = .56$, $p < .05$), more self-centeredness ($ATT = .51$, $p < .05$), a stronger anger identity ($ATT = .58$, $p < .05$), association with more delinquent peers ($ATT = .93$, $p < .05$), greater commitment to negative peers ($ATT = .88$, $p < .05$), and more time spent in unstructured and public social settings ($ATT = .56$, $p < .05$). Further, onset of gang membership was associated with less-anticipated guilt for involvement in delinquency ($ATT = -.54$, $p < .05$) and less-parental monitoring ($ATT = -.60$, $p < .05$). Overall, joining a gang appears to influence elements related to the code of the street.

Additional analyses show that, consistent with previous research, even after controlling for pre-existing differences in the likelihood of gang involvement, gangs produced a statistically significant and substantively large effect on violent offending for those youth who reported onset of gang involvement at wave 4 in both the unmatched (mean difference = 13.34, $p < .05$) and matched comparisons ($ATT = 11.33$, $p < .05$) indicating an enhancement effect of gang membership on violent offending. Given these findings, we next examine whether factors associated with the code of the street can help explain the enhancement effect of gang membership on violence.

To examine the second research question, wherein we hypothesized that an increased adherence to the street code by gang joiners would mediate

6. Covariate balance was examined using the standardized bias statistic (Rosenbaum & Rubin, 1985), with absolute values above 20 indicative of imbalance (i.e. bias) between the treatment and control groups.

7. According to Caliendo and Kopeinig (2008, p. 34), the average treatment effect on the treated (i.e. ATT) represents "the difference between expected outcome values with and without treatment for those who actually participated in treatment." The final column is the average treatment effect (ATE), which represents the estimated average effect of gang joining on violent activity if respondents were randomly assigned to gang or non-gang conditions.

the noted increase in violence by these youth, we utilized the Preacher and Hayes (2008) method of multiple mediation analysis using SPSS (16.0). Table 2 presents results from this analysis, which included the estimated propensity score for gang involvement as a covariate control (Coffman, 2011).⁸ That is, all coefficients represent the unique effect of the predictor on the outcome, above and beyond any other variables in the model (Preacher & Hayes, 2008). For instance, Table 1 reported the direct effect of gang joining on measures associated with the street code without simultaneously controlling for other factors in the model. Similarly, Model A in Table 2 represents the effect of gang joining on these same factors, yet is conditional on all other variables in the model; the results are substantively similar in terms of statistical significance.

Model B in Table 2 provides the effects of the street code indicators on the natural log of the frequency of violent offending, net all other variables. With the exception of self-centeredness, perceptions of the police, and parental monitoring, all proposed mediators are significantly associated with violence. For example, a one-unit increase in acceptance of the street code is associated with a 13% ($\exp(b)=1.13$; $p < .05$) increase in violent offending. Greater belief in the appropriateness of techniques of neutralization for violence ($\exp(b)=1.07$; $p < .05$), a reduction in anticipated guilt ($\exp(b)=.94$; $p < .05$), higher anger identity ($\exp(b)=1.11$; $p < .05$), stronger negative peer commitment ($\exp(b)=1.07$; $p < .05$), and increased time spent in unstructured social settings ($\exp(b)=1.05$; $p < .05$) were significantly associated with an increase in the frequency of violent delinquency. These effects were net of involvement with delinquent peers, whereby it was estimated that a 10% increase in peer delinquency was associated with a 6% increase in violent offending ($1.10^{.57} = .06$; $p < .05$).

As expected, joining a gang is associated with a substantively large (i.e. 253%) increase in the frequency of violent offending (see Model C in Table 2 [$\exp(b)=3.53$; $p < .05$]). After controlling for all variables associated with the code of the street and the propensity to be in a gang, the direct effect is reduced to a 114% increase in violence that can be attributed to gang joining alone (see Model D in Table 2 [$\exp(b)=2.14$; $p < .05$]). This reduced effect can be attributed to a significant total indirect effect of gang membership on violence through the mediating pathways (see Model E in Table 2 [$\exp(b)=1.63$; $p < .05$]). In other words, gang joiners have a stronger ascription to factors associated with the street code and this explains a significant proportion of the variance in violent offending. In addition to acceptance of the street code specific scale ($b = .05$, $p < .05$), five other hypothesized variables associated with the street code were found to be significant mediators of the effect of gang membership on violence: guilt ($b = .03$,⁹ $p < .05$); anger identity ($b = .06$,

8. The coefficient for gang propensity on violent offending was 1.60 (SE = .37; $p < .05$).

9. The positive direction of this coefficient is simply a byproduct of the calculation of the coefficient (i.e. $-.48 \times -.07 = .03$), and thus is unimportant given both of the original estimated coefficients are in the expected direction.

Table 1 The effect of onset of gang membership at wave 4 on adherence to the street code

Wave 4	Unmatched ^a			Matched ATT ^b			
	Gang onset (<i>n</i> = 52)	Nongang (<i>n</i> = 2,154)	Difference	Gang onset (<i>n</i> = 51)	Nongang (<i>n</i> = 2,154)	Difference	ATE
Violent delinquency frequency	14.96	1.62	13.34*	14.33	3.00	11.33*	13.63
Street code	3.55	2.83	.72*	3.55	2.99	.56*	.55
Self-centeredness	3.00	2.32	.68*	3.02	2.52	.51*	.60
Anger identity	3.71	2.93	.78*	3.75	3.17	.58*	.85
Violent neutralizations	4.00	3.33	.67*	3.99	3.63	.36	.74
Peer delinquency	2.56	1.42	1.13	2.55	1.62	.93*	1.13
Negative peer commitment	2.99	1.94	1.05*	2.99	2.11	.88*	1.20
Anticipated guilt	1.77	2.48	-.71*	1.78	2.33	-.54*	-.59
Perceptions of the police	2.77	3.43	-.66*	2.80	3.05	-.25	-.39
Parental monitoring	3.37	4.12	-.76*	3.38	3.98	-.60*	-.75
Unstructured socializing	2.31	1.61	.70*	2.31	1.75	.56*	.57

**p* < .05 (*t*-test).Note. Propensity score analyses were done using kernel matching with *ab* and width of .05. Bootstrap standard errors (50 replications) of the ATT were used to calculate statistical significance.^aDifference scores represent the raw mean difference between nongang youth and those who reported onset of gang involvement at wave 2.^bThe ATT is based on the differences in mean outcome for propensity score matched individuals using kernel matching.

Table 2 The total, direct, and indirect effects of onset of gang membership and factors associated with the code of the streets at Time 4 on Time 4 delinquency

	<i>b</i>	SE	exp(<i>b</i>)
<i>Model A (a paths): the effect of onset of gang membership on factors associated with the code of the street</i>			
Street code	.45*	.12	
Violent neutralizations	.25	.17	
Guilt	-.48*	.08	
Self-centeredness	.51*	.12	
Anger identity	.55*	.15	
Perceptions of the police	-.16	.11	
Parental monitoring	-.56*	.11	
Peer delinquency (lg)	.39*	.05	
Negative peer commitment	.83*	.14	
Unstructured socializing	.44*	.13	
<i>Model B (b paths): the effect of factors associated with the code of the streets on violent delinquency</i>			
Street code	.12*	.02	1.13
Violent neutralizations	.07*	.02	1.07
Guilt	-.07*	.03	.94
Self-centeredness	.01	.02	1.01
Anger identity	.10*	.02	1.11
Perceptions of the police	-.01	.02	.99
Parental monitoring	-.04	.02	.96
Peer delinquency (lg)	.57*	.06	1.06
Negative peer commitment	.07*	.02	1.07
Unstructured socializing	.05*	.02	1.05
<i>Model C (c path): total effect of onset of gang membership on violent delinquency</i>			
Onset of gang membership	1.25*	.12	3.53
<i>Model D (c' path): direct effect of onset of gang membership on violent delinquency</i>			
Onset of gang membership	.76*	.10	2.14
<i>Model E (ab paths): the indirect effects of onset of gang membership on violent delinquency</i>			
Total indirect effects	.49*	.09	1.63
Street code	.05*	.02	1.05
Violent neutralizations	.02	.01	1.02
Guilt	.03*	.02	1.03
Self-centeredness	.01	.01	1.00
Anger identity	.06*	.02	1.06
Perceptions of the police	.00	.01	1.00
Parental monitoring	.02	.02	1.02
Peer delinquency (lg)	.22*	.05	1.02

(Continued)

Table 2 (Continued)

	<i>b</i>	SE	exp(<i>b</i>)
Negative peer commitment	.06*	.02	1.06
Unstructured socializing	.02*	.01	1.02

* $p < .05$; $R^2 = .37$.

Note. Estimates are based on the Preacher and Hayes (2008) method of effect decomposition, including bootstrap standard errors (1,000 replications) for indirect effects and covariate control for gang propensity. The dependent variable represents the natural log of delinquency frequency plus one. Because peer and individual delinquency are in a natural log form, the exp(*b*) coefficient is the predicted value based on a 10% increase in peer delinquency ($1.10^{[b]}$).

$p < .05$); peer delinquency ($b = .22$, $p < .05$); negative peer commitment ($b = .06$, $p < .05$); and unstructured socializing ($b = .02$, $p < .05$).

Conclusion

For decades, researchers have suggested that gangs are qualitatively different than nongang members. In truth, this has been less of an empirical finding and more of a commentary based primarily on the extremely criminal nature of street gangs. It has been more difficult to distinguish between gang and nongang delinquent groups by nonoffending qualities (e.g. risk factors) or the processes through which gang membership influences behavior. This research offers unique insight into the internal dynamics and influence of gangs on their members. The results of this study suggest that one reason that gang members commit more violent offenses than their nongang peers is due to a stronger ascription to notions of violence as a means to maintain and achieve respect that is amplified as youths join gangs. Membership in a gang fosters attitudinal shifts that facilitate involvement in violent behavior consistent with Anderson's (1994, 1999) "code of the street." Interestingly, not all of the factors associated with the street code (e.g. self-centeredness, perceptions of police, and parental monitoring) were associated with changes in violent behavior. While previous research has highlighted the importance of displays of toughness and masculinity among gang members (e.g. Vigil's discussion of *machismo*), this research has been able to compare statistically equivalent gang and nongang members and systematically establish a relationship between gang joining, street code attitudes, emotions, and behaviors and violent offending.

While Anderson (1999) failed to speak directly on the role of gangs in the etiology of violence on inner-city Philadelphia streets, his emphasis on the role of "running buddies" and "homies" as "critical" (p. 73) for socialization and protection underscored the role such groups can have in the lives of youth. In this study, we hypothesized that gang members are more likely to engage in violent offending, because they more strongly ascribe to attitudes and beliefs that are consistent with Anderson's (1999) code of the street. Our findings overwhelmingly support this notion. Even after statistically minimizing the likelihood of

pre-gang differences (self-selection) between the gang joiners and nongang youth, gang joiners were still more likely to report violent offending. This is consistent with previous notions of the enhancement/facilitation effect of gangs on members' offending (Esbensen & Huizinga, 1993; Gatti et al., 2005; Gordon et al., 2004; Lacourse et al., 2003; Thornberry et al., 1993, 2003). The unique contribution of this work is the added attempt to identify factors that can help explain the mechanisms behind the gang membership and violence connection.¹⁰ Gang joiners in this sample more strongly believed in the use of physical aggression to achieve and maintain respect (i.e. the code of the street). They also possessed other code-related attitudes and conditions like increased self-centeredness, anger, and commitment to negative peers, as well as a lack of guilt, low-parental monitoring, and more time spent in unstructured venues that serve as staging areas for violence (e.g. parties where drugs and alcohol are present and public areas). These results suggest that gang membership not only significantly affects delinquent behavior, but also routine activities and underlying attitudinal and emotional dispositions.

More importantly, these analyses showed that a significant portion of the effect of gang joining on violent offending was mediated by ascription to the street code. This is important for a number of reasons. First, research has demonstrated that gang members have distinct attitudes and behaviors from nongang members (e.g. Esbensen et al., 2009), but have not generally established temporal ordering (i.e. differences in attitudes precede membership). This is a primary reason why there has not been more clarity regarding the reason gang membership so significantly increases participation in violence. This study lends support to the idea that one reason that gang membership has such a powerful effect on its members is because it leads to a change in attitudes and beliefs. After propensity score matching, the gang joiners in this multi-site sample of youth were statistically indistinguishable on prior attitudes, beliefs, and behaviors to their nongang counterparts. Contemporaneous to joining the gang these correlates became significantly different. Furthermore, the changes in attitudes and beliefs under investigation in this study were found to mediate differences in behavior.

Second, these results suggest that ascription to the code of the street through specific attitudes related to the notions of toughness and respect is a particularly robust mechanism through which gang membership produces violent behavior. Despite the significant impact of gang joining on a number of attitudinal and affective constructs, it was only ascription to the street code, peer delinquency, anger, unstructured socializing, and anticipated guilt that mediated the relationship between gang membership and violence. The strong effect of peer delinquency on gangs has been shown as a risk factor for gang membership in prior scholarship (e.g. Esbensen et al., 2009, Esbensen &

10. We also build on the work of Melde and Esbensen (2011) by including measures of all significant mediators in their analysis of gang membership as a turning point impacting involvement in general delinquency.

Weerman, 2005; Hill, Howell, Hawkins, & Battin-Pearson, 1999; Lahey, Gordon, Loeber, Stouthamer-Loeber, & Farrington, 1999). The current study suggests that the ready supply of delinquent peers to model and support violent involvement mediates the effect of gang membership on violence. Gang joining also influences violent offending, because of the time socializing without supervision and/or with drugs and alcohol present (even when controlling for all other measures). In addition, being quick to anger mediates the effect of gang joining on violence, a finding that is consistent with Anderson's (1999) notion of "street people." The impact of gang membership on anticipated guilt adds to previous research demonstrating the link between this construct and gang and nongang members' offending (Esbensen et al., 2009; Maxson et al., 2011; Melde & Esbensen, 2011). Finally, the link between gang membership, the street code, and violent offending has empirical support.

This study is not without its limitations. Despite an overall sample of over 2,000 youth, this research relies on a sample of only 51 gang youth who were in the study at both waves 3 and 4, which precluded multi-level analyses of potential neighborhood effects. This sample, while diverse in US geography (including Philadelphia and Chicago) and demography (a sizable sample of African-American, Hispanic, and white youth), may not reflect the broadest spectrum of gang members. These gang members were enrolled in (and attended) school. They also had parents who consented to their participation in this research study. A substantial body of gang research has benefited from similar samples and data collection procedures (e.g. Gordon et al. 2004; Hill et al. 1999; Krohn & Thornberry, 2008; Thornberry et al., 2003). Still, future research should examine these issues across different gang types and members (e.g. deeply entrenched gang members, highly structured gangs vs. loosely coupled groups). In addition, the current mediation analysis assists in establishing direct and indirect effects of the street code on gang members' participation in violence; however, these findings can still be critiqued in that street code and violent offending are measured at the same time point (i.e. wave 4). The calculation of lagged effects was hampered by the fact that most youth who became gang involved at wave 4 were no longer gang involved at wave 5, and thus violent behaviors measured at wave 5 may not have occurred during their membership in the gang. That being said, this study is an important first step in uncovering a relationship between gang joining, the code, and violence.

Critics of the street code have argued that the code may be both a cause of violence and a rationalization of or explanation for violent behavior (Jimerson & Oware, 2006) or formula story for constructing an accepted identity (Brookman, Copes, & Hochstetler, 2011). According to this argument, individuals with a desire to use violence will use the notion of a "code" to justify behavior they would have done regardless, and articulate the behavior as part of a more accepted storyline. While this study cannot definitively exclude the code as a type of violence rationalization, the inclusion of violence neutralizations is informative. Techniques of neutralization are, arguably, a more direct

and intuitive method of rationalizing violent behavior (e.g. provocation and self-defense) than the street code (i.e. being tough and getting respect). These analyses show that after accounting for the street code, gang joining did not lead to a systematic increase in the acceptance of techniques of neutralizing violence, which was then related to higher levels of violent offending.

From a policy perspective, these findings offer a viable, albeit difficult, formula for intervention. While there are certainly gang prevention efforts that target attitudes and behaviors associated with gang membership (e.g. the GREAT Program), the finding that delinquent peers also mediate the gang/violence relationship indicates that efforts that address both attitudes such as those associated with the "code," as well as individuals' routine activities (e.g. unstructured socializing, associations with delinquent peers) might be most effective. This is complicated, however, by the fact that many environments where the street code thrives also provide a ready supply of delinquent peers and venues for unstructured socializing, contributing to the continuation of those situations (i.e. staging areas) in which the "code of the street" flourishes, and may ultimately lead to violence. Thus, while it is important to address those attitudinal changes that come with joining the gang, prevention programs might also benefit from efforts that decrease unstructured interaction with delinquent peers.

The results of this study also hint at the fact that despite great differences between gang and nongang members, there may be a more refined subset of attitudinal differences that influence specific behaviors. In other words, in terms of policy initiatives, it may not be necessary to change every antisocial belief that a gang member has to be able to successfully prevent problematic behaviors. While certainly not exhaustive, this research offers some insight into potentially important aspects of gang member cognition with respect to the appropriateness of interpersonal violence. Current findings, along with Anderson's (1999) original treatise on the more systemic roots underlying adoption of the code, suggests that prevention and intervention programs should focus on street code-related attitudes, emotions, and behaviors as possible targets in reducing antisocial behaviors.

The development of prevention and intervention programs targeting the attitudinal, emotional, and behavioral aspects of the street code may prove particularly difficult, however, given a basic paradox inherent in the norms of the street code and prevailing treatment paradigms. As Gilligan (2003) and Meeks (2011) have noted, individuals and groups that adopt norms consistent with the code of the street are particularly concerned with the desire to be viewed positively by one's peers, and by a belief that violence is necessary for future protection. Because respect is at the heart of the code, allowing oneself to be disrespected, or publicly shamed (i.e. a "shame-ethic"), is likely to produce negative effect in individuals concerned with maintaining a valued identity or reputation; matters that are particularly vital in the lives of youth. Many social interventions, however, rely upon what has been termed a "guilt-ethic," in that they are based upon the fundamental notion that certain

behaviors should be avoided, because of their harmful effect on others (i.e. perspective taking and empathy). If one can appreciate the impact of one's behavior on others, s/he should feel the negative affective state of guilt when considering harmful actions and such behavior would be avoided.

When it comes to violence, however, these two paradigms may not be compatible. As Luckenbill (1977) demonstrated, many violent interactions follow a generalized script, wherein physical altercations regularly result from attempts to "save face" among peers. That is, without a violent response, an individual is likely to feel shame as a result of losing the respect of one's peers. On the other hand, interventions seek to demonstrate the harmful consequences of behavior on others, and thus attempts to imbue notions of perspective taking and guilt on the subject. As Meeks (2011) suggested, it can be very difficult to extol the virtues of backing down from or ignoring a perceived assault on one's reputation (i.e. the value of defeat) in cases where an adolescent is operating in an environment operating under a shame-ethic (e.g. the code of the street). In essence, interventions that rely upon the guilt-ethic in such situations are asking youth to place others ahead of themselves, and face the public humiliation and feelings of shame in order to avoid the guilt one might feel for harming others. The choice then becomes to retaliate and (potentially) feel guilty, or back down and feel shame; youth are stuck between the proverbial rock and a hard place. Instilling a guilt-ethic is further complicated by the results of this study which show that, along with ascription to attitudes concerning the use of violence to garner respect, gang joining also increases self-centeredness and anger, and decreases levels of anticipated guilt. Unfortunately, these results make it all the more pressing for social interventions targeting gangs to find an effective solution to this paradox.

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Appendix A. Description of variables and scales used to create the propensity scores and alpha at time 1 (wave 3)

Scales/indices	Example question(s)	No. of items	Response range	α
Anticrime influence	"Have any of the following told you about the dangers of drugs, violence, or gangs ... Friends ... Family members, School teachers"	6	1-3	.79
Awareness of victims services	"You are aware of programs and services in your community that help victims of crime"	4	1-5	.79
Benefits of gang membership	"What GOOD things do you think would happen to you as a gang member ... I would be part of a family, I would be protected"	9	1-2	Index
Calming others	"When someone else was upset, how often have you ... Asked the person why he/she was upset ... Spoken to him/her in a calm voice ..."	4	1-3	.71
Collective efficacy	"There's not much I can do to change our community," "It is my responsibility to do something about problems in our community"	5	1-5	.62
Community disorder	"Run down or poorly kept buildings in the neighborhood," "Graffiti on buildings and fences in the neighborhood"	6	1-3	.88
Conflict resolution	"... how often have you ... Talked to the person about why I was upset ... Did nothing and just stayed angry for a while" (reverse coded)	5	1-3	.67
Conventional activities	"During the past year, were you involved in the following activities? School Activities or athletics, Job activities ..."	5	1-2	Index
Disadvantages of gang membership	"What BAD things do you think would happen to you as a gang member ... I would feel guilty, I would get hurt, I would get killed"	9	1-2	Index
Empathy	"I would feel sorry for a lonely stranger in a group," "I worry about how other people feel"	5	1-5	.73
Illegal substance use frequency	"Have you ever used ... Tobacco Products ... Alcohol ... Marijuana or other illegal drugs ... Paint, glue or other things you inhale to get high"	4	1-5	na
Impulsivity	"I often act without stopping to think," "I don't devote much thought and effort to preparing for the future"	4	1-5	.70

(Continued)

Appendix A (Continued)

Scales/indices	Example question(s)	No. of items	Response range	α
Listening skills	"I often interrupt someone talking to me (reverse coded)," "I look at the person talking to me"	4	1-5	.59
Lying neutralizations	"It's okay to tell a small lie if it doesn't hurt anyone," "It's okay to lie if it will keep your friends from getting in trouble"	3	1-5	.83
Peer pressure	"How likely is it that you would go along with them (friends) if they wanted you to ... Bully another student at school ... Use illegal drugs"	7	1-5	.88
Positive peer commitment	"If your friends told you not to do something because it was wrong, how likely is it that you would listen to them?"	2	1-5	.84
Problem solving	"I talk to adults about my problems," "I talk to my friends about my problems."	2	1-5	.51
Pro-crime influence	"Have any of the following encouraged you to be involved in drugs, violence, or gangs? ... Friends, Family members"	6	1-3	.74
Property delinq. freq. (ln)	"Stolen or tried to steal something worth less than \$50," "Gone into a building to steal something"	6	0-11	na
Prosocial peers	"How many of your current friends have done the following ... Have been thought of as good students ... Obeyed school rules"	4	1-5	.88
Refusal skills	"Every now and then we try to avoid doing things that our friends try to get us to do ... Ignored the person"	5	1-3	.72
Risk seeking	"I like to test myself every now and then by doing something a little risky," "... find it exciting to do things for which I might get in trouble"	4	1-5	.86
School commit	"I try hard in school ... Homework is a waste of time"	7	1-5	.83
Self-efficacy	"When I make plans, I am certain I can make them work," "If I can't do something the first time, I keep trying until I can"	5	1-5	.79
Stealing neutralizations	"It's okay ... to steal something from someone who is rich and can easily replace it," ... "if that's the only way you could ever get it"	3	1-5	.87
Victimization frequency	"Been hit by someone trying to hurt you," "Had someone use a weapon or force to get money or things from you"	4	1-11	na

Note. All wave 3 measures of the proposed mediators were also included in the probit model, but are described in the measures section of the text. There are no scale alpha scores reported (i.e. na = not applicable) for indexes of dichotomous variables (e.g. Conventional activities).

Appendix B: Bias diagnostics for gang onset at wave 4 vs. non-gang

Wave 3 variables	Unmatched		Matched		Bias (%)
	Gang (n = 52)	Nongang (n = 2, 154)	Gang (n = 51)	Nongang (n = 2, 154)	
Male	.56	.47	.55	.54	2.20
Black	.19	.15	.20	.17	7.00
Hispanic	.54	.39	.53	.50	5.60
Native American	.02	.02	.02	.01	5.60
Asian	.02	.05	.02	.03	-7.50
Other	.00	.00	.00	.00	.00
Mixed race/ethnicity	.02	.07	.02	.03	-6.60
Age	11.60	11.42	11.61	11.55	7.60
Street code	3.29	2.91	3.29	3.24	5.50
Violent neutralizations	3.87	3.39	3.86	3.86	-1.10
Anticipated guilt	2.45	2.61	2.45	2.44	2.80
Self-centeredness	2.47	2.38	2.48	2.51	-3.50
Anger identity	3.29	2.99	3.30	3.36	-6.10
Perceptions of the police	2.92	3.56	2.96	3.02	-7.10
Likelihood of reporting crime	2.58	2.99	2.58	2.72	-11.00
Parental monitoring	3.92	4.21	3.93	4.00	-10.30
Peer delinquency (natural log [ln])	.47	.22	.47	.45	5.50
Negative peer commitment	2.30	1.82	2.29	2.23	5.90
Anticrime influences	2.19	2.27	2.21	2.17	7.80
Collective efficacy	3.05	3.15	3.05	3.02	3.70
Avoidance behaviors	2.10	2.33	2.10	2.12	-4.50
Conflict intervention likelihood	2.39	2.43	2.38	2.34	8.10
Conflict resolution likelihood	2.03	2.16	2.01	2.01	1.50

(Continued)

Appendix B (Continued)

Wave 3 variables	Unmatched			Matched		
	Gang (n = 52)	Nongang (n = 2,154)	Bias (%)	Gang (n = 51)	Nongang (n = 2,154)	Bias (%)
Conventional activities	.56	.57	-3.80	.56	.52	14.20
Empathy	3.43	3.64	-32.30*	3.42	3.39	4.00
Listening skills	3.45	3.52	-11.70	3.44	3.38	8.80
Open dialogue	3.62	3.52	10.90	3.63	3.50	14.90
Susceptibility to peer pressure	1.74	1.35	50.50*	1.75	1.77	-2.70
Peer pro-social behavior	2.88	3.48	-58.20*	2.88	2.99	-10.70
Positive peer commitment	3.76	4.21	-38.80*	3.77	3.79	-1.40
Pro-crime influences	1.17	1.13	16.20	1.17	1.16	7.70
School commitment	3.49	3.76	-34.50*	3.51	3.45	7.20
Self efficacy	3.59	3.70	-15.80	3.58	3.55	5.70
Awareness of services	3.60	3.68	-10.40	3.59	3.57	2.90
Community disorder	1.89	1.68	38.80*	1.89	1.83	12.20
Neutralizations for lying	3.03	2.81	22.40*	3.03	3.10	-7.40
Neutralizations for stealing	2.24	1.75	59.90*	2.25	2.27	-3.20
Impulsivity	3.05	2.72	41.80*	3.03	3.00	4.90
Risk seeking	3.09	2.61	47.20*	3.07	3.07	-1.10
Violent delinquency frequency (ln)	1.04	.44	65.10*	1.00	.93	7.90
Property delinquency frequency (ln)	1.31	.46	81.30*	1.28	1.22	6.10
Illegal substance use	.98	.37	39.40*	1.00	.85	9.40
Victimization frequency	13.77	9.56	31.50*	13.55	13.19	2.70
Benefits of gang membership	11.06	10.59	25.80*	11.06	10.99	3.70
Disadvantages of gang membership	14.19	14.66	-19.20	14.22	14.31	-3.80
Involved in GREAT	.63	.54	18.60	.63	.59	8.10
Unstructured socializing	1.67	1.19	55.60*	1.67	1.56	12.60

Note. Rosenbaum and Rubin (1985) suggest that percent bias values above 20 in absolute value indicates an unacceptable level of bias in the sample. Variables above 20 in absolute value are noted with an asterisk (*).