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Validating Self-Nomination in Gang Research: Assessing Differences in Gang Embeddedness Across Non-, Current, and Former Gang Members

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Abstract

Objective   The study of gang members is closely linked to the self-nomination method. It is timely to revisit the criterion validity of self-nomination, as recent theoretical and empirical advancements in gang disengagement necessitate further differentiating current from former gang members. This study assessed differences in gang embeddedness—a construct that taps individual immersion within deviant social networks—across three groups: current gang members, former gang members, and those individuals who have never joined a gang.

Methods   Data gathered in 2011 from a high-risk sample of 621 individuals in five cities were used to assess the validity of the self-nomination method. Standardized differences in a mixed graded response model of gang embeddedness were evaluated across the three statuses of gang membership.

Results   Self-nomination was strongly related to embeddedness in gangs, even after controlling for demographic, theoretical, and gang-related factors. The strongest predictor of gang embeddedness was self-nomination as a current or a former gang member, although current gang members maintained levels of gang embeddedness about one standard deviation greater than former gang members. Self-nomination was also the primary determinant of gang embeddedness for males, females, whites, blacks, and Hispanics.

Conclusion   The results of this study provide strong evidence in support of the use of self-nomination to differentiate between non-gang and gang members as well as current and former gang members, adding to a body of research demonstrating that self-nomination is a valid measure of gang membership.

Keywords   Gang membership · Self-report · Item response theory · Embeddedness

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Introduction

 The self-report tradition is at the core of much research in criminology and criminal justice, and its development was critical to the expansion of the discipline in the latter half of the twentieth century (Hindelang et al. 1981; Krohn et al. 2010). Beginning with the surveys conducted by Porterfield (1943, 1946), Wallerstein and Wyle (1947), and later expanded upon by Short and Nye (1957, 1958; Nye and Short 1957), the self-report methodology has become a core tool in criminology. Today, self-reports occupy a central place in the study of deviance (Krohn et al. 2010; Piquero et al. 2002; Thornberry and Krohn 2000). This method extends beyond general forms of crime and delinquency to specific types of active offenders (e.g., burglars, carjackers, drug sellers and smugglers, and armed robbers). It is perhaps most common in the study of gangs. Much of the research involving gang members over the past two decades has used self-nomination to identify individuals as such (Decker et al. 2013).[1] This has been due, in large part, to the influential work of Esbensen et al. (2001), and others (Bjerregaard 2002; Thornberry et al. 2003; Webb et al. 2006; Winfree et al. 1992), in assessing the validity of claims of gang membership. Indeed, studies including gang membership often cite Esbensen et al.'s (2001: 124) conclusion that "the self-nomination technique is a particularly robust measure of gang membership capable of distinguishing gang from nongang youth."

The annals of gang research have long recognized that involvement in gangs is not uniform across members (Klein 1971; Thrasher 1927; Vigil 1988; Yablonsky 1962). Thrasher (1927: 310) identified, among others, leaders, core members, and groups of hangers-on: "The real gang is a small, compact, select body around which there forms a wide fringe of more or less harmless, would-be gang boys." Despite this recognition, little is known about the varying levels of individual immersion in gangs—what has been termed "gang embeddedness" (Pyrooz et al. 2013b)—and how this relates to self-nominating as a current gang member, former gang member, or having never been a member of a gang.

The integration of gang membership into a life-course framework has magnified questions surrounding the validity of the self-nomination method (Melde and Esbensen 2011; Moule et al. 2013; Pyrooz and Decker 2011; Pyrooz et al. 2010; Thornberry et al. 2003). Indeed, paralleling the growth of interest in understanding criminal desistance (Piquero et al. 2003; Laub and Sampson 2003), researchers have focused on disengaging from gangs. In particular, Decker and Lauritsen (2002) and Pyrooz et al. (2010) found many individuals with a history of gang membership occupy two gray areas: (1) individuals who report gang membership yet are emotionally and socially disconnected from the gang, and (2) individuals who de-identify as gang members but retain emotional and social connections to the gang. Further, studies have demonstrated the disengagement process is not symmetrical to the onset of gang membership; leaving the gang is more gradual, replete with pushes and pulls to and from the gang and into other social arenas (Decker and Lauritsen 2002; Decker et al. 2014; Moloney et al. 2009; Pyrooz and Decker 2011). In light of these observations, questions remain about whether self-nomination adequately differentiates former from active gang members.

This study uses the concept of gang embeddedness to assess the criterion validity of self-nominated gang membership with data gathered from a high-risk sample of 621 individuals in five US cities. If self-nomination is a valid method, one that can empirically distinguish between non-, former and current gang members, we would anticipate statistical and substantive differences in the latent construct of gang embeddedness across each category. With the recent attention to measuring gang disengagement (Carson et al. 2013),

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[1] "Self-nomination" and "self-report" are used interchangeably throughout the manuscript.

it is critical to understand whether self-nomination as a "former" gang member is consistent with behavior and beliefs. Overall, the present study reassesses the validity of self-nomination in the study of gang members and extends the applicability of embeddedness across all gang statuses.

Measuring Gang Membership

Defining and measuring gangs and gang members has remained controversial for the better part of the twentieth century. Katz and Jackson-Jacobs (2004) voiced concern over the "criminologists' gang," accusing criminologists of constructing social phenomena that individuals in city life may not recognize or believe to be problematic (see also Sullivan 2005, 2006). Monti (1991, 1992) similarly suggested that criminologists, particularly qualitative researchers, had "gone native," and consequently see gangs in far more places than they really exist. Others held that community gang problems were manipulated and socially constructed by the media and community stakeholders for personal or organizational gains (Katz 2001; McCorkle and Miethe 2001; Meehan 2000; Zatz 1987). These controversies have migrated to Europe in recent years. Smithson et al. (2012) described a community that clearly has gangs and gang members, but found few young men who self-identified as gang members. Hallsworth and Young (2008) struck a more political tone and argued that the construction of "gang" and "gang member" was used to label and repress young men of color (see also Bloch and Niederhoffer 1958; Smithson et al. 2013). For many reasons, there are serious reservations about the definition and measurement of gangs and gang members. Despite these reservations, the past two decades have seen substantial growth in empirical examinations of gang membership.

The two primary sources of information on gang membership are official data and survey research. Researchers were originally hesitant to embrace official data over concerns that police data "more often reflect[s] the organization of social control agencies than the empirical realities about gang membership or gangs" (Fagan 1990: 190). While these concerns persist, law enforcement data are increasingly found in contemporary studies of gangs (e.g., Papachristos et al. 2013; Pyrooz et al. 2010). There are good reasons to use official data: (1) recent empirical studies find an acceptable degree of reliability and validity in police gang records (Decker and Pyrooz 2010; Katz et al. 2012; Jensen and Thibodeaux 2012) and (2) Barrows and Huff (2009) recently noted that despite a great deal of between-state variation in the criteria used to define gang members, all states include a measure of self-nomination. In Curry's (2000) comparison of self-reported and officially recorded gang membership in Chicago, he found that police records underestimated gang membership, particularly among younger gang members. He held that "there is an overlap between the gang problem as it is observed by field studies and surveys and the gang problem as revealed by analyses of official records" (p. 1268).

With evidence suggesting that gangs and gang members are not a figment of the criminological imagination, researchers in the late 1980s and early 1990s found that allowing individuals to self-identify as a gang member avoided the definitional debates and subjective assessments of law enforcement (Esbensen and Huizinga 1993; Fagan 1990; see also Ball and Curry 1995). As a result, the most common measure of gang membership has been to use a dichotomous item that is typically worded: "are you currently in a gang?" and/or "have you ever been in a gang?" Of course, historical accounts of gang membership implicitly used self-nomination to distinguish gang from non-gang youth (e.g., Thrasher 1927; Miller 2011). Indeed, the Glueck and Glueck (1943) essentially relied on study participants telling psychiatrists that they socialized with a gang to discern gang

membership. But the impassioned definitional debates and the larger conceptualization of gangs and gang members during the 1980s and 1990s was the harbinger for the self-nomination movement, which has become standard in criminology. Once these items were placed in large regional (e.g., Causes and Correlates studies) and national (e.g., National Longitudinal Survey of Youth 1997) datasets, it set the stage for the explosion of indi-vidual-level gang research in the late 1990s and 2000s (Decker et al. 2013).[2]

Simply because self-nomination avoided definitional debates and subjective police records does not mean researchers have used the measure uncritically. Several studies have explored the reliability and validity of self-nomination. While some negative evidence exists on the topic,[3] the bulk of the evidence supports the validity of self-nomination. In particular, Esbensen et al. (2001) has become the foundation for contemporary studies of gang members. Like other studies (Bjerregaard, 2002; Winfree et al. 1992), Esbensen and his colleagues used an increasingly restrictive definition of what constitutes a "gang" to assess the magnitude of the differences in behaviors and attitudes with each changing definition. Categories included (1) those that were "ever" in a gang, (2) current gang members, (3) gang engages in delinquency, (4) gang has some level of organization, and (5) individuals centrally involved in their gang. While restricting the definition of gangs and gang members resulted in increased antisocial attitudes and behaviors, the largest differences were found between gang and non-gang youth. They concluded: "Whatever it is that this one question captures, the respondents clearly reacted to the stimulus" (p. 123), thus supporting their oft quoted statement that self-nomination is a "robust measure of gang membership" (p. 124).

Other studies also offer support for the validity of self-reports offered by gang members. Webb et al. (2006) paired the results of urinalysis with self-reported drug use among recent juvenile arrestees in Arizona, assessing whether disclosure rates varied across gang membership status. Concordance rates did not vary across current, former, associate, and never-gang members, leading the authors to conclude that self-reports of gang members are as valid as non-members. Extending their previous work (Thornberry et al. 1993), which found few differences between using self-nomination versus alternative selection criteria (e.g., gang name, gang size), Thornberry et al. (2003) demonstrated the construct validity of gang membership using longitudinal data gathered from Rochester youth. They rea-soned the group processes in gangs elevate levels of crime and delinquency, and thus fluctuations in offending with movement into and out of gangs reinforces the predictive validity of self-nomination. Finally, as described above, Curry (2000) observed a strong, positive correlation between self-reporting as a gang member and being officially recorded as a gang member in police files.

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[2] Indeed, the method is used in school-based surveys (e.g., Esbensen et al. 2010), regional and national longitudinal studies (e.g., Pyrooz 2013a; Thornberry et al. 2003), field-based research (e.g., Densley 2013; Harding 2010; Pyrooz et al. 2013a), and serves as the basis for studies outside of the U.S. Put simply, outside of some European contexts where "gang" takes on alternative meanings, necessitating the use of Eurogang indicators, studies overwhelmingly use some form of self-nomination to operationalize gang membership.

[3] For example, Matsuda et al. (2013) recently compared three measures of gang membership, including self-nomination as a gang member, group of friends is a gang, and the Eurogang measure. While they found only limited overlap across the three measures, a similar set of predictors distinguished gang from non-gang youth. Craig et al. (2002) found only limited concordance across self-, teacher-, and parent-reports of gang membership. They held, however, that "Gang membership may be a peer activity to which adults are not privy" (p. 66) and that "adults are not aware generally of who belongs to a gang" (p. 67), alluding to points made by Densley (2013).

Self-Nomination in the Context of Disengagement from Gangs

The use of the self-nomination method in gang research has yielded tremendous insight into a range of gang-related behaviors and processes. Much of this research, however, has focused on comparing *current* gang members to non-gang youth. To be sure, the basis for the validity of self-nomination developed independent of differentiating current and former members. Until recently, little was known about leaving gangs, including the motives and methods for leaving and the changes in behaviors and attitudes associated with transitioning out of the gang, The integration of gang membership into a life-course framework has made prominent the parameters of gang careers, as well as the characteristics, behaviors, and experiences of former gang members.

Leaving a gang is not simply the reverse of joining, as one process is not symmetrical to the other. Pyrooz and Decker (2011: 423) noted that economic opportunities might motivate joining a gang, but "replacing it with other money generating activities may not comprise a reason to leave the gang." The disengagement process is less black and white than it is shades of gray and has been described as a "teeter–totter" as individuals move back and forth between gang membership and a new non-gang identity (Decker et al. 2014). Field and survey research (Decker and Van Winkle 1996; Decker et al. 2014; Moloney et al. 2009; Pyrooz and Decker 2011; Vigil 1988) describe leaving the gang as a gradual process of cutting social ties and shedding gang identity. This process is usually accelerated by a combination of pushes internal (e.g., violence, police, tiring of the lifestyle) and pulls external (e.g., girlfriend, job, children) to gang life (Pyrooz and Decker 2011). Therefore, leaving the gang rarely involves a quick "knifing off" but instead constitutes a process that is drawn out over time.

The implication of the gang disengagement process for self-nomination is that the method may be replete with error. Decker and Lauritsen (2002) and Pyrooz et al. (2010) held that the "ties that bind" introduce conceptual and methodological issues when determining who is a former gang member. Type 1 errors, or false positives, are individuals who claim to no longer be in a gang, but *still engage* in gang-related activities. Type 2 errors, or false negatives, are individuals who claim gang membership, but *no longer engage* in gang-related activities (Pyrooz and Decker 2011). Pyrooz et al. (2010) demonstrated that Type 1 error corresponds with consequences for victimization: individuals who maintained "ties" to the gang, but no longer claimed membership, were more likely to be victimized than individuals who shed gang ties entirely, regardless of how long ago they terminated their involvement.

Self-nomination is at the heart of classifying gang members; the ability of this method to differentiate current from former gang members remains unknown. Research that examines the relationship between disengaging from gangs and desistance from crime provides indirect evidence for the construct validity of self-nomination, as the most rigorous studies find that offending declines when someone transitions from current to former gang member (Bjerk 2009; Gordon et al. 2004; Melde and Esbensen 2013; Sweeten et al. 2013; Thornberry et al. 2003). Further, Sweeten et al. (2013) recently showed that leaving the gang corresponded with reductions in friendships, antisocial peers, unstructured routine activities, and victimization, as well as increased temperance; changes that are consistent with theoretical models of gang membership. Together, the above results provide initial support for the validity of the self-nomination method for former member, but this validity has yet to be assessed directly.

The current study draws from recent advances in the concept of gang embeddedness (Pyrooz et al. 2013b; Sweeten et al. 2013) to validate the self-nomination method. Elaborating on Hagan's (1993) notion of criminal embeddedness, gang embeddedness refers to

"individual immersion in enduring deviant social networks" (Pyrooz et al. 2013b: 271). The construct of gang embeddedness is comprised of contact with the gang, social positioning within the gang, and the importance of the gang, as well as participating in gang violence and the balance of gang versus non-gang friendships, which is expected to vary within and between individuals. Gang embeddedness captures these binding ties that are a potential source of error in distinguishing between non-, former, and current gang members. Individuals who self-nominate as gang members should have higher levels of gang embeddedness than those who no longer self-nominate or never self-nominated as gang members. Indeed, if self-nomination is a valid indicator, it should better discriminate between these groups than other demographic or theoretical measures.

The expansion in gang research over the past decade and the concerted movement to understand disengaging from gangs requires researchers to know if their measures of gang membership are valid. To date, the validity of the self-nomination method has been established with indicators theoretically linked to involvement in gangs (e.g., antisocial attitudes) but do not directly tap gang involvement (e.g., hanging out with gang members). It is an advantageous time to re-examine the validity of self-nomination and see if the method remains "robust" to an alternative test. After all, using repeated tests for construct validity is an important means of establishing the broader utility of a concept (Cronbach and Meehl 1955). We hypothesize that self-nomination should differentiate between non-, former, and current gang members with regard to gang embeddedness and its components, even after adjusting for other gang-related variables, theoretical constructs, and demographic characteristics.

Methodology

Data

This study uses data gathered from a high-risk sample of 621 respondents to assess the criterion-validity of the self-nomination method. The data were obtained from interviews conducted with individuals in 5 US cities: Cleveland, OH; Fresno, CA; Los Angeles, CA; Phoenix, AZ; and St. Louis, MO. Respondents were interviewed in settings chosen to include a large number of individuals with involvement in gangs and criminal behavior. All sites included individuals who were actively involved in gangs, as well as individuals who had disengaged from gangs and who claimed to have never joined gangs. Respondents in Cleveland were the clients of street outreach workers; individuals at risk for involvement in crime whose behavior was being monitored by a non-criminal justice agency. The respondents in Los Angeles and Phoenix were participants in street outreach programs. Agencies worked with gang members and former offenders seeking to change their lives. Many of their clients had extensive involvement in the criminal justice system. In Fresno, interviews were conducted with a jail population. In St. Louis, interviews were conducted with individuals on probation or parole. Interviews were conducted in 2011 in these cities over the course of several months. Trained members of the research project staff administered surveys face-to-face in private locations at the facilities of each research site (e.g., classrooms, attorney rooms).[4]

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[4] Most interviews were completed within 45- to 60- minutes. In the rare case that a respondent did not speak English, they were assigned to a Spanish-speaking interviewer. Very few individuals refused to participate in the study. In some cases, respondents declined to answer specific items in the questionnaire. Respondents in street settings were provided a small monetary incentive or store coupon for participating that did not exceed $25, but this was not permitted in the jail.

Our purposive field-based sampling strategy offers many advantages for investigating the proposed research questions. First, unlike general population samples with low prevalence rates of gang and criminal involvement, these data include a large number of current and former gang members and criminal offenders, many of whom have a history of involvement in the criminal justice system. Second, as the respondents have rich and diverse experiences with gangs and wide-ranging demographic profiles, we are capturing an extensive cross-section of current and former gang members. Panel studies with age or grade cohorts are limited in this regard. Third, based on recent research on the concept of gang embeddedness, this is the first data source containing these measures asked of non- and former gang members. Finally, interviewing individuals from comparably situated environments in cities with several decades of gang history enhances the validity of our findings, as such a strategy accounts for a portion of unobserved heterogeneity in the population. These strengths are balanced against the weakness of a non-random sample with unknown external validity. We encourage replication with other samples to address this concern. As we describe below, the features of these data combine to produce a strict benchmark to assess the validity of self-nomination.

Dependent Variable

Gang embeddedness is the outcome variable. A scale of gang embeddedness is constructed using a mixed graded response model (Samejima, 1969, 1997) and applied to a set of five variables introduced in Pyrooz et al. (2013b) and Sweeten et al. (2013) that tap individual immersion in gangs. These items include (1) *frequency of contact*: 0 "never" to 5 "daily"; (2) *importance of gang to respondent*: 0 "not important at all" to 4 "extremely important"; (3) *proportion of friends in the gang*: 0 "none of my friends" to 4 "all of my friends"; (4) *position in the gang*: 0 "no position" to 4 "leader"; (5) *frequency of gang-involved assaults*: 0 "never" to 4 "more than five times." A distinguishing feature in the current study is that these questions were asked of all respondents regardless of their gang self-nomination. In addition, both current and former gang members provided responses to the items for two time points: "right now" and "when you were most involved."

The graded response model treats gang embeddedness as a normally distributed latent trait and was generated using item response theory modeling using IRTPRO 2.1 (Cai et al. 2011; Rabe-Hesketh and Skrondal 2008). Responses to gang embeddedness items are assumed to be driven by a latent trait, where different thresholds are estimated for each item attribute within the graded response model and the factor loadings function as discrimination parameters across the items (see "Appendix" for model parameters). Pooled standardized empirical Bayes predictions of the latent variables were generated for present and peak levels of gang embeddedness (marginal reliability = 0.87). The main dependent variable in this study is present levels of gang embeddedness, standardized to a mean of zero and standard deviation of one; peak gang embeddedness is used as a control variable in models that contrast current and former gang members (see below).[5] We supplement our analyses by disaggregating the construct and independently examining the five items.

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[5] In an effort to add a temporal dimension to the cross-sectional study design, there is a natural constraint on the measure of gang embeddedness at the two time points. There is no fixed distance between peak and present gang embeddedness, compared to the Pathways to Desistance data where the items were asked of current gang members in 6- and 12-month intervals (see Sweeten et al. 2013). Present levels of gang embeddedness can never exceed peak levels of gang embeddedness.

Independent Variable

Gang membership is the key independent variable in this study. As we have discussed above, the operationalization of gang membership using self-nomination is a hallmark in gang research. Respondents were asked: (1) "Have you ever been a member of a gang?" and (2) "Are you currently in a gang?" Those responding affirmatively to both questions were recorded as current gang members, those responding yes–no were recorded as former gang members, and those responding no to both questions as non-gang members. Attesting to the high-risk nature of our sample, 188 (30 %) and 264 (43 %) respondents identified as current and former gang members, respectively, while 169 (27 %) claimed never to have been gang members. It is important to note that these two items were asked at different points in the interview, with the latter presented to respondents after having answered questions about gang embeddedness.

Control Variables: Gang-Related

In models contrasting current and former gang members, three gang-related variables are used to control for alternative explanations of the outcome variables. *Gang embeddedness (peak)* is derived from the identical measures used to construct the dependent variable, but respondents were asked to report "when you were most involved" in the gang. Some gang members cycle in and out of the gang without serious consequences or deep bonds to the gang. Indeed, Horowitz (1983) noted this in her study of the Lions in Chicago and Pyrooz et al. (2013b) recently demonstrated that weakly embedded gang members desist quickly. As others have observed (Decker and Lauritsen 2002; Pyrooz et al. 2010), if social and emotional ties to the gang linger among former members, we would expect this to occur among those who had higher peak levels of gang embeddedness. Controlling for peak gang embeddedness provides a stricter validity test of gang self-nomination as it ensures that no systematic differences in prior peaks in gang embeddedness account for current differences.

Duration of involvement is a count measure of the number of years in a gang. Respondents were asked to provide interviewers with a year and then, if possible, a month or season of the year (often using significant events, such as holidays or a new school year) when they joined and no longer identified as a gang member, respectively. Yearly mid-points were used when respondents had trouble recalling such specific time points. It is hypothesized that individuals with a longer history of gang membership should maintain stronger ties to the gang.

Gang organization is a construct derived from eight items inquiring about the respondents' gang. Because gangs with greater organizational structure may have higher levels of cohesion and member roles and expectations (Decker et al. 2008; Decker and Pyrooz 2013), it is hypothesized that gang organization should be positively related to gang embeddedness. On a scale ranging from 0 ("does not describe my gang") to 2 ("describes my gang very well"), respondents were asked: "how well do the following characteristics describe your gang?" The items were averaged and the construct maintained a high level of internal consistency (Cronbach's alpha = 0.83, average inter-item $r = 0.38$).

Control Variables: Theoretical Constructs

A measure of *offending variety* is used because exiting the gang corresponds with reductions in criminal offending and a variety score is a reliable and valid method of

scaling criminal offending (Sweeten, 2012). Offending variety was created from eight items asking about behaviors in the last 6 months, including destroying property, theft below $50, theft exceeding $50, gun carrying, robbery, simple assault, aggravated assault, and drug sales. Such offenses are consistent with prior gang research (e.g., Esbensen and Huizinga 1993).

Low self-control is examined to tap individual differences in criminal propensity and risk for gang membership (Gottfredson and Hirschi 1990; Kissner and Pyrooz 2009). The construct is comprised of four items from the Brief Self-Control scale (Tangney et al. 2004), which has been used previously in criminological research (e.g., Holtfreter et al. 2010). Respondents were asked to indicate how well statements such as "I do certain things that are bad for me, if they are fun" described them on a scale of 0 ("not at all") to 4 ("very much"). Higher scores correspond with poorer levels of self-control. The items were averaged and the construct exhibited acceptable levels of internal consistency (Cronbach's alpha = 0.71; average inter-item $r = 0.37$).

Code of the street is derived from contemporary statements on subcultural theory that have validity in the context of gangs (Anderson, 1999; Matsuda et al. 2013). Based on six items drawn from Stewart and Simons (2010), respondents were asked to report how well they agreed with statements such as "If someone uses violence against you, it is important that you use violence against him or her to get even" on a scale from 0 ("strongly disagree") to 3 ("strongly agree"). Higher scores reflected a stronger adoption of the street code. The items were averaged and the psychometric properties of the construct exceed conventional standards (Cronbach's alpha = 0.81; average inter-item $r = 0.42$).

Routine activities draws from Osgood et al.'s (1996; Osgood and Anderson 2004) individual-level formulation of routine activities that emphasizes time use and unstructured socializing, concepts with applicability to gangs (Decker and Van Winkle 1996; Spano et al. 2008; Taylor et al. 2008). Two items were combined to capture routine activities by asking respondents how many hours they spent (outside of work or school) hanging out with their friends in (1) public places like malls, parks, corners, or stores and (2) private places like houses, apartment complexes, or backyards (inter-item $r = 0.50$). Five possible response categories ranged from 0 (zero hours) to 4 (20 or more hours). Responses were mean-adjusted (e.g., 1–5 = 3 hours) to approximate a meaningful distribution, then summed for public and private routine activities, resulting in a range of 0–40 hours hanging out with friends.

Control Variables: Demographic

Several control variables are also included in our analysis, including *age* (in years), *male* (=1, "female" = 0), racially *Black* (=1, "other/White" = 0), ethnically *Hispanic* (=1, "other/White" = 0), *education* (in years), and *parental education* (in years). The typical respondent is in their twenties (mean = 28), male (91 %), Black or Hispanic (40 and 51 %), and was a high school dropout (mean = 10.8) (see Table 1).

Analytic Strategy

We contrast non-, former, and current members with present levels of gang embeddedness to assess the validity of self-nominated gang membership. This presents a strict test of the self-nomination as self-nominated *former* gang members should be most similar to self-nominated *current* gang members. The criterion validity of the self-nomination method is evaluated by its ability to predict gang embeddedness and its components. In short, do those who claim to be or have been gang members act like it?

Table 1 Descriptive statistics by gang membership status

	Full sample	Non-gang members	Former gang members	Current gang members	Difference[a]
N (%)	621 (100 %)	169 (27 %)	264 (43 %)	188 (30 %)	
Gang-related					
Embeddedness (present)	0.00 (1.00)	−0.87 (0.66)	−0.16 (0.74)	1.02 (0.61)	.000
Position	0.87 (1.15)	0.06 (0.25)	0.52 (0.91)	1.95 (1.05)	.000
Importance	0.67 (1.14)	0.09 (0.45)	0.27 (0.65)	1.74 (1.37)	.000
Assaults	0.70 (1.23)	0.12 (0.51)	0.57 (1.13)	1.40 (1.48)	.000
Contact	1.81 (1.95)	0.65 (1.51)	1.43 (1.67)	3.38 (1.67)	.000
Friends	1.74 (1.42)	0.69 (1.00)	1.61 (1.27)	2.87 (1.09)	.000
Embeddedness (peak)[b]	1.93 (0.66)	–	1.89 (0.69)	1.99 (0.62)	.133
Duration (in years)[b]	11.15 (7.61)	–	9.60 (6.37)	13.35 (8.62)	.000
Gang organization[b]	1.37 (0.55)	–	1.37 (0.55)	1.39 (0.54)	.466
Demographic					
Age	26.76 (9.28)	23.91 (9.04)	29.26 (9.43)	25.81 (8.35)	.000
Male	0.84	0.80	0.86	0.84	.203
Black	0.41	0.44	0.41	0.38	.000
Hispanic	0.47	0.36	0.48	0.56	.000
Other	0.04	0.05	0.04	0.02	.000
Education	10.76 (1.80)	10.72 (1.95)	10.80 (1.75)	10.73 (1.73)	.892
Parental education	10.51 (3.22)	10.55 (3.07)	10.51 (3.23)	10.48 (3.39)	.988
Theoretical constructs					
Offending variety	1.36 (1.91)	1.17 (1.44)	0.94 (1.51)	2.15 (2.47)	.000
Low self-control	1.80 (0.94)	1.62 (0.96)	1.74 (0.95)	2.02 (0.87)	.000
Code of the street	1.52 (0.71)	1.36 (0.68)	1.43 (0.71)	1.80 (0.67)	.000
Routine activities	14.82 (11.85)	13.77 (11.74)	14.00 (11.85)	16.92 (11.75)	.020

Standard deviations in parentheses

[a] p values from ANOVA or chi-square analyses

[b] Current or former gang members only

We begin by assessing the unadjusted differences between non-, former, and current gang members across the study variables, focusing on the magnitude and statistical significance of differences. If gang self-nomination is valid, there ought to be substantial differences between each of these groups. Next, we determine if these differences hold after adjusting for demographic and theoretical constructs. We reproduce these analyses on the gang-involved sample, distinguishing current from former gang members while also controlling for gang-related measures including peak gang embeddedness. Finally, we assess whether gang self-nomination distinguishes between current and former members on all components of gang embeddedness using a series of regression models. While the statistical significance of unadjusted differences in gang embeddedness across the three groups establishes criterion validity of self-nomination, we subject these differences to more rigorous tests using multivariate analysis. If self-nomination holds up as statistically and substantively significant in these subsequent tests, evidence for its validity is even stronger. Overall, the inclusion of demographic, theoretical and gang-related variables, coupled with a high risk-sample and partitioned gang embeddedness models, provides a

rigorous, conservative assessment of the validity of the self-nomination method. All analyses were conducted in Stata 12.0, adjusting for site differences and using robust standard errors.

Results

Descriptive and Bivariate Statistics

Table 1 displays the descriptive statistics for the study variables for the full sample and for the three groups defined by gang self-nomination. Confirming the criterion validity of self-nomination, gang embeddedness varies systematically across the three groups. Current gang member embeddedness is 1.18 standard deviations higher than former gang members and 1.89 standard deviations higher than non-gang members. Also, former gang members are substantially more embedded in gangs than non-gang members, with .71 SD higher embeddedness. These patterns hold across all five gang embeddedness items. Self-nomination as a current gang member as opposed to a former gang member means a higher gang position, more importance of the gang to the respondent, more involvement in gang-related assaults, more frequent contact with other gang members, and a higher proportion of friends who are gang members. At the same time, former gang members exhibit stronger ties to gangs in all of these areas when compared to non-gang members, confirming that gang ties likely persist after individuals claim to no longer be in the gang.

While there are strong differences in gang embeddedness across the three groups, there is also considerable heterogeneity in gang embeddedness within the groups, as seen in Fig. 1. Among those who report never being in a gang, 55 % also report zero for gang position, importance of gang, involvement in gang assaults, contact with gang members, and friends in a gang. For these individuals, along with just over 15 % of former gang members, there is no evidence of gang embeddedness. At the same time, there are individuals who claim to never have joined a gang and yet have low to moderate levels of gang embeddedness. Inspection of the gang embeddedness items for non-gang members shows that the most likely reason for higher levels of embeddedness is contact with gang members and friends who are gang members as these have higher overall means. Former gang members tend to have low levels of gang embeddedness, with 62 % of the group falling between −.80 and .40 while some continue to evince a high level of immersion in gang life. Finally, most current gang members show dramatically higher levels of gang embeddedness; relatively few exhibit low gang embeddedness. While heterogeneity in gang embeddedness is intriguing, it does not detract from the very large differences in gang embeddedness across the three self-nomination groups, indicating the validity of self-nomination to identify groups with meaningfully different levels of involvement in gangs.

Returning to Table 1, we see that for both current and former gang members, present levels of gang embeddedness are considerably lower than peak levels of gang embeddedness. Current gang members have dropped nearly a full standard deviation, and former gang members over two standard deviations. The sample includes a wide range of current and former gang members, from those who recently joined a gang (as recently as 2 months ago) to those who have been out of a gang for decades (as long as 32 years prior to the interview). It is not surprising that current gang members have a longer duration of gang membership than former gang members but it is somewhat surprising that they do not associate with more organized gangs nor were their peak levels of embeddedness any higher.
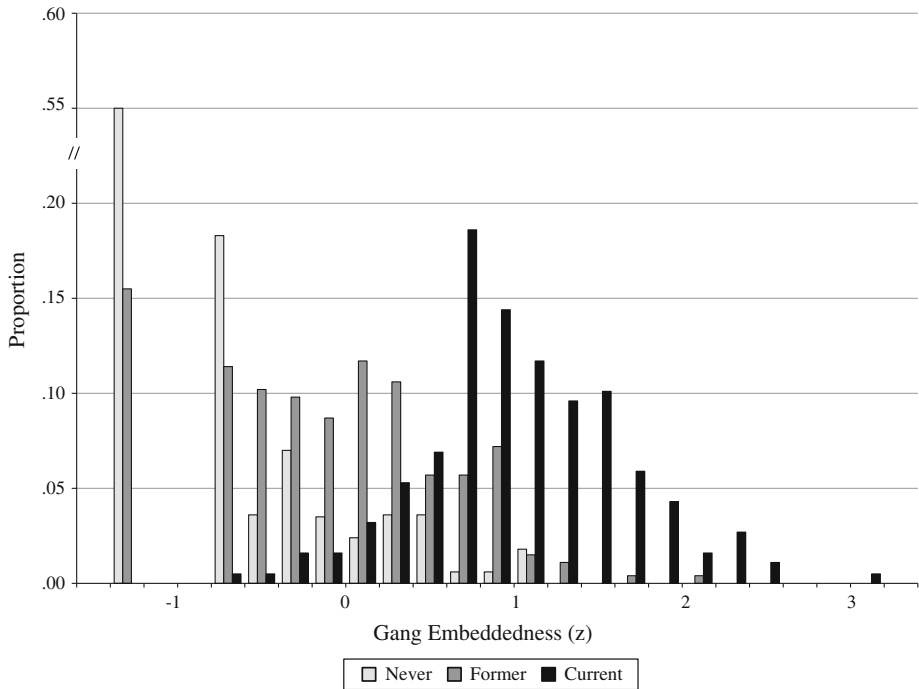
Fig. 1 Distribution of standardized gang embeddedness by gang membership status

We also find age and race/ethnicity differences across the three groups, but no statistically significant differences in the percent male, educational attainment, or parental education. We find significant differences across the three groups in all four theoretical constructs but these seem to be driven mostly by the contrast between current gang members and the rest of the sample. In fact, non-gang members exhibit slightly higher offending variety than former gang members whereas current gang members' offending variety was roughly double the other two groups. Current gang members also have lower self-control, higher street code orientations, and more unstructured routine activities. In sum, we find moderate differences in age, race and theoretical constructs, and large differences in gang-related measures.

While differences in gang embeddedness establish evidence for the validity of gang self-nomination, these differences may be explained by other variables that significantly differ between self-nomination groups. Support for the validity of self-nomination would be bolstered if substantively large embeddedness differences remain after adjusting for these other variables in a multivariate context. Put simply, if the ability of self-nomination to discriminate between non-, former, and current gang members operates through other factors, it would be necessary to reconsider its validity and its use in gang research.

Regression Models Predicting Present Levels of Gang Embeddedness

Table 2 presents the results of a series of OLS models where the construct of gang embeddedness is regressed on self-nominated gang membership and demographic and theoretical control variables. Model 1 replicates the gang embeddedness differences shown

in Table 1, and also indicates that 54 % of the variance in gang embeddedness is explained by gang self-nomination. We conducted Wald tests of equality of the gang coefficients to determine embeddedness levels differ significantly between current and former members ($F_{1,618} = 349.6$, $p < .001$). Model 2 reveals that controlling for demographic characteristics and introducing site fixed effects does little to alter the relationship between self-nomination and embeddedness, actually resulting in slightly larger coefficients. Only age was related statistically (and negatively) to gang embeddedness, with .02 lower embeddedness per year. Clearly, this effect size is dwarfed by that of gang self-nomination.

Model 3 provides a more stringent test by controlling for broader theoretical constructs. We observe in Model 3 that offending variety ($\beta = 0.16$, $p < .01$), code of the street ($\beta = 0.15$, $p < .01$), and routine activities ($\beta = 0.08$, $p < .05$) were statistically and positively related to gang embeddedness, although low self-control exhibited no such relationship. Further, the addition of these constructs to the model reduced the expected differences in gang embeddedness between current members and non-members by 12 %, and between current and former members by 19 %. It had no effect, however, on the expected difference between former and non-gang members, and the difference between current and former members remained statistically significant ($F_{1,601} = 262.5$, $p < .001$). Further, the effect sizes of the theoretical constructs were much smaller than that of gang self-nomination. It would take a difference of 4.8 standard deviations in code of the street orientation, for example, to equal the differences in gang embeddedness between former and non-gang members. Despite the introduction of correlates that vary with gang membership (Kissner and Pyrooz 2009; Matsuda et al. 2013; Melde and Esbensen 2011; Sweeten et al. 2013) self-nomination as a current gang member remains a strong covariate of gang embeddedness.

Table 2 Gang embeddedness regressed on gang membership and explanatory variables, full sample (N = 621)

	Model 1		Model 2[b]		Model 3[b]	
	β	t	β	t	β	t
Current gang member	1.90	28.14	1.95	25.28	1.68	21.06
Former gang member	0.71	10.44	0.80	10.61	0.72	9.71
Age			−0.02	−5.70	−0.01	−3.22
Male			0.05	0.58	0.10	1.24
Black			−0.04	−0.43	−0.02	−0.17
Hispanic			−0.03	−0.33	0.01	0.10
Other			−0.01	−0.09	−0.01	−0.05
Education[a]			−0.03	−0.93	−0.03	−1.09
Parental education[a]			−0.01	−0.26	0.02	0.77
Offending variety[a]					0.16	5.89
Low self-control[a]					−0.02	−0.88
Code of the street[a]					0.15	4.98
Routine activities[a]					0.08	2.56
R^2	0.54		0.59		0.65	
Model F-statistic	415.97*		79.05*		73.78*	

* $p < .00$

[a] Standardized

[b] Site effects included

In Table 3 we replicate the analyses from Table 2 on the gang sample only, which allows us to add an additional model where we control for peak gang embeddedness, duration in the gang, and gang organization. These results further bolster the evidence for the validity of gang self-nomination. First, self-nominating as a current gang member accounts for 42 % of the variance in gang embeddedness among current and former gang members. Second, the initial difference in gang embeddedness between current and former members is only moderately attenuated by the introduction of demographic, theoretical and gang-related constructs. In the end, 74 % of the gang embeddedness difference between these groups remains unexplained in the last model. And once again, no theoretical construct approaches the magnitude of the difference in gang embeddedness attributable to self-nomination. The final adjusted difference is .88, and the largest statistically significant predictor of embeddedness is code of the street orientation at .17 ($p < .001$). This means it would take an over 5 standard deviation difference in code of the street orientation to equal the magnitude of the difference in gang embeddedness between self-nominated current and former gang members. Whether we account for demographic characteristics, constructs of criminological theory, or gang-related indicators, there is no better measure that distinguishes between current and former gang members than self-nomination. These results provide strong support for the validity of the self-nomination method.

Table 3 Gang embeddedness regressed on gang membership, gang variables and explanatory variables, gang sample (N = 452)

	Model 1		Model 2[b]		Model 3[b]		Model 4[b]	
	β	t	β	t	β	t	β	t
Current gang member	1.19	18.70	1.11	17.87	0.93	15.57	0.88	13.08
Peak embeddedness[a]							0.11	3.45
Duration[a]							0.06	1.32
Gang organization[a]							0.00	0.09
Age			−0.02	−5.44	−0.01	−2.88	−0.02	−3.44
Male			0.16	1.89	0.21	2.62	0.18	2.14
Black			−0.13	−1.00	−0.17	−1.34	−0.15	−1.22
Hispanic			−0.16	−1.42	−0.15	−1.33	−0.15	−1.37
Other			−0.06	−0.34	−0.05	−0.32	0.01	0.05
Education[a]			−0.03	−0.97	−0.03	−0.81	−0.01	−0.45
Parental education[a]			−0.01	−0.21	0.04	1.15	0.03	0.73
Offending variety[a]					0.15	5.37	0.14	5.28
Low self-control[a]					−0.03	−0.98	−0.04	−1.22
Code of the street[a]					0.19	5.99	0.17	5.47
Routine activities[a]					0.07	2.15	0.07	2.03
R^2	0.42		0.54		0.62		0.63	
Model F-statistic	349.76*		43.13*		38.41*		37.21*	

* $p < .001$

[a] Standardized

[b] Site effects included

Regression Models Predicting Dimensions of Gang Embeddedness

To further unpack the criterion validity of self-nominated gang membership among current and former gang members, we disaggregate the construct of gang embeddedness and examine each item independently in a series of regression models. If the hypotheses of statistical and substantive significance hold true across these alternative specifications, it would provide convincing evidence that self-nominated *current* gang membership corresponds to higher gang leadership positions, greater importance of the gang to the individual, greater involvement in gang violence, more contact with the gang and more gang-related friends compared to *former* gang membership.

A cursory read of Table 4 provides generally favorable, but not uniform, support for the validity of self-nomination. The results are clear and favorable for position in the gang ($\beta = 1.06$), importance of the gang ($\beta = 0.95$), and contact ($\beta = 0.82$), where the effect sizes are strong and comparable to the effect of gang self-nomination on overall gang

Table 4 Standardized gang embeddedness items regressed on gang membership, gang variables and explanatory variables, gang sample (N = 452)

	Position		Importance		Attack		Contact		Friends	
	β	t	β	t	β	t	β	t	β	t
Current gang member	1.06	11.90	0.95	9.91	0.25	2.60	0.82	9.83	0.62	6.55
Position (peak)[a]	0.27	6.68								
Importance (peak)[a]			0.18	5.34						
Attack (peak)[a]					0.24	6.81				
Contact (peak)[a]							0.21	6.40		
Friends (peak)[a]									0.33	8.98
Duration of involvement[a]	0.02	0.35	−0.10	−1.89	−0.02	−0.44	0.02	0.36	0.14	2.19
Gang organization[a]	−0.06	−1.46	−0.04	−1.08	−0.10	−2.53	0.10	2.77	0.05	1.20
Age	−0.01	−1.69	−0.00	−0.65	−0.02	−3.59	−0.01	−1.05	−0.02	−2.43
Male	0.02	0.25	0.28	2.69	−0.07	−0.61	0.28	2.66	0.10	0.91
Black	0.07	0.47	0.02	0.09	0.15	0.67	−0.27	−1.54	0.10	0.49
Hispanic	−0.16	−1.41	0.16	1.03	−0.08	−0.38	−0.26	−1.62	0.05	0.25
Other	−0.09	−0.41	0.18	0.87	0.06	0.20	−0.15	−0.51	0.11	0.51
Education[a]	−0.03	−0.74	0.00	0.00	−0.03	−0.73	−0.04	−0.98	0.00	0.03
Parental education[a]	0.03	0.79	0.08	2.02	−0.02	−0.31	0.03	0.77	0.00	0.04
Offending variety[a]	0.09	2.48	0.17	3.74	0.27	5.83	0.11	3.01	0.12	3.25
Low self-control[a]	−0.09	−2.20	−0.01	−0.31	0.05	1.08	−0.04	−0.97	0.02	0.51
Code of the street[a]	0.02	0.39	0.12	3.04	0.17	3.78	0.17	3.86	0.10	2.05
Routine activities[a]	0.02	0.69	0.02	0.40	0.02	0.37	0.09	2.15	0.05	1.04
R^2	0.50		0.51		0.46		0.50		0.41	
Model F-statistic	25.51*		20.38*		20.16*		36.75*		22.77*	

* $p < .001$

[a] Standardized

embeddedness. The effect of gang self-nomination on friends in the gang is smaller (β = 0.62) but still quite large, indicating a .62 standard deviation difference between the two groups. It would take just under a two standard deviation swing in peak gang friends (β = 0.33) to match this difference. The results appear less favorable for attacks, where the adjusted difference between current and former members was only a quarter of a standard deviation ($p < .01$), nearly equal to the effect of a one standard deviation difference in peak involvement in gang attacks. However, our concern is lessened by the fact that the dependent variable is included on both sides of the regression equation since offending variety is one of the control variables. Removing this from the model results in a considerably larger effect of self-nomination (β = 0.40, $p < .01$), although still the smallest of the five models.

Overall, we view the results of the disaggregated model as strongly supportive of the validity of self-nomination. Self-nomination has a statistically significant effect in all models and the effect sizes were substantively moderate to large in four of the five models. These analyses confirm that gang self-nomination is related to each dimension of gang embeddedness, and to most dimensions quite strongly. Based on these results, we conclude that if researchers need to differentiate between individuals actively involved in gangs and individuals who have disengaged from gangs, self-nomination is an appropriate and valid method for doing so.

Discussion

The past two decades have seen a substantial growth in the prevalence of empirical studies assessing the causes and consequences of gang membership. Central to this growth has been the acceptance that self-nomination as a gang member is a valid, reliable, and robust method for establishing whether someone belongs to a gang. Despite the widespread acceptance of and empirical support for this recognition, there remains skepticism about this method. This skepticism has, in some respects, been buttressed by conceptual questions emerging from the integration of gang membership into the life-course framework. The results in this paper provide strong support for the continued use of self-nomination to establish non- and current gang membership status (see also Bjerregaard 2002; Esbensen et al. 2001; Thornberry et al. 2003; Webb et al. 2006; Winfree et al. 1992), and extends the use of self-reported measures to former members. The validity of self-reports across gang status is consistent with earlier work that found gang members are generally truthful about their drug use when self-reports are validated by the results of urinalysis (Webb et al. 2006) and concordance with police gang record (Curry 2000). These findings lend themselves to three broader points of discussion.

First, the results are quite robust in support of the use of self-nomination to distinguish among non-, former, and current gang membership. While the results indicating that self-nomination differentiates gang embeddedness across each gang status, the support for the validity of self-nomination is bolstered by the robust differences in the face of controls for demographic, gang and theoretical variables. These controls do little to affect the strength of the relationship between self-nomination as a gang member and gang embeddedness. This suggests that the relationship holds for a variety of demographic groups, further enhancing its validity.[6] In addition, a number of relevant gang variables do little to change the relationship,

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[6] Supplemental analyses within demographic groups shows that gang self-nomination is the primary determinant of gang embeddedness for males, females, whites, blacks and Hispanics. The only exception is that former female gang members do not have statistically higher gang embeddedness than female non-gang members, although we cannot rule out lack of statistical power as an explanation for this since the analysis included only 101 females. Current female gang members had substantially higher gang embeddedness than both former and non-gang members, supporting our main argument.

suggesting that length of time in the gang (type of gang member) or gang organizational structure (type of gang) do little to nothing to affect the validity of self-nomination. This is important as it means that this measurement approach correctly identifies gang members regardless of gang organization and across a range of stages in the gang career. Finally, we examined the extent to which three theoretical constructs (self control, routine activities, and code of the street) altered the validity of our measure. Routine activities and code of the street constructs reduced the relationship between self-nomination and gang embeddedness, though these reductions were small. Overall, this suggests that in the face of a large number of relevant demographic, gang, and theoretical controls, the relationship between self-nomination and embeddedness in the gang remains positive and quite strong.

Second, self-nomination is a viable methodology for operationalizing disengagement from gangs. Beginning with Decker and Lauritsen (2002), along with more recent conceptual and definitional questions raised in Pyrooz et al. 2010), there has been increased momentum to study the movement from active to former gang membership. Indeed, shortening gang careers could pay dividends for reductions in offending and victimization, along with improvements in many other life domains. Yet, only indirect evidence could support the use of self-nomination to determine if a former gang member was *actually* a former gang member. In light of this "gray area" of gang membership and the possibility that measuring the disengagement from gangs could be fraught with Type 1 and Type 2 error, it was necessary to determine if researchers are adequately measuring former gang membership. The results of the current study provide strong support for the use of self-nomination to measure former gang membership. We observed large differences in gang embeddedness between current and former gang members. Self-nomination as a former gang member did better than any other predictor—demographic, theoretical, or gang-related—in differentiating current levels of social positioning, the importance of the gang to the respondent, participation in gang-related assaults, contact with other gang members, and the proportion of friends who were gang members.

Finally, these findings have particularly important implications for responses to gangs. It is imperative that prevention, intervention, and suppression programs not use their scarce resources on individuals who were never in a gang or who have cut ties to their former gang. The ante is particularly high for gang intervention programs, where the targets are active gang members who engage in a good deal of criminal activity. Likewise, interventions targeting those who do not acknowledge their gang membership are likely to waste resources and may produce secondary deviance (e.g., Lemert 1967), either through labeling or exposure to high-risk peers. Thus, gang embeddedness represents one component for making such programming determinations (see Pyrooz 2013b). Individuals who have left the gang but continue to be treated as gang members are at great risk for continued targeting by suppression tactics. When police continue to target individuals in the process of leaving their gang, or who have withdrawn from the gang, one consequence is to reinforce the very membership that former gang members seek to shed.

To this end, we recommend that gang members who claim that they are leaving their gang, or have left, be taken at their word. Our results provide support for an institutional change in how the criminal justice system handles former gang members; to be sure, it should not be in the same manner as active gang members, nor non-gang members. Former gang members are wedged within a continuum of gang embeddedness—lower than active gang members, higher than non-gang members—with non-zero levels of gang embeddedness driven by continued contacts and friendships with members of their former gang. Our recommendation is that former gang membership should result in a reclassification, one that recognizes the potential for being influenced by gang ties, but one that excludes

these individuals from the net of gang roundups and other enforcement activities, introduces a sunset period for full removal from gang databases, and downgrades gang classification and eliminates or reduces gang enhancement penalties, particularly for crimes with only indirect relevance for gangs. After all, the goal should be to make it easier, not harder, to leave one's gang; recent research on gang disengagement shows that it is hard enough without law enforcement making it more difficult.

This is among the first studies to use actual gang activity to empirically demonstrate the construct validity of self-nomination. Prior research has assessed the validity of this measure by examining the relationship between self-nominated gang membership and theoretically expected behaviors (e.g., criminal offending) or by varying the definition of "gang" and anticipating that increases in its restrictiveness (e.g., organization) should result in more criminogenic attitudes and behaviors. Provocative questions emerge from the current line of study, in that heterogeneity in gang embeddedness by gang status raises questions about the contemporary conceptualization of gang membership. Is self-nominated gang membership simply another item in a latent construct of gang embeddedness? What are the implications of gang embeddedness among those who do not or who no longer self-nominate? Although beyond the scope of the current analysis, there is much to be gained—methodologically, conceptually, and practically—by attending to questions related to variations in gang embeddedness by self-nomination as a non-, former, or current gang member. We have concentrated on only one aspect of these questions by shedding light on a longstanding concern in gang research: the measurement of gang membership.

Two streams of research could further improve upon the findings presented above. First, it would be ideal to study within-individual changes in embeddedness among study participants. It may be that there are time-stable differences between our pool of non-, current, and former gang members that we are unable to capture in a cross-sectional design. While this is a possibility, we control for the changes in embeddedness for anyone who has ever been a member of a gang, as well as account for theoretical correlates of gang membership common in the literature. Although beyond the scope of the present article, it is worthwhile to better understand whether turning points in the life-course influence gang embeddedness.[7] While life events like marriage and employment were of interest to early gang researchers (e.g., Miller 2011; Thrasher 1927; Whyte 1943), the changing age dynamics of key institutions like marriage, education, and employment do not avail themselves to gang members today.

Second, we assess only one method of self-nomination: surveys administered face to face. Although different methods of survey administration may influence self-nomination (ethnographic interviews versus self-administered surveys, for example), other methods may lead to divergent results if there was a strong tendency on the part of self-reporting respondents to be less than truthful about their gang involvement, either overstating or understating both gang status and gang embeddedness. This would result in a positively biased effect of self-nomination on gang embeddedness. Ethnographic work would catch the "posers" or "wanna-bes" (self-nominators who have no gang ties) and secretive gang members (no self-nomination yet clearly an embedded gang member). Overall, the tendency to over- or under-report these characteristics would have to be very strong in order to challenge our results, but we encourage multiple methods of investigation into the validity of self-nomination for gang research.

The nature of the sample introduces some limitations for the present study. Although respondents come from a number of cities, our results are not generalizable to all current, former, and non-gang members in all US cities, much less those areas where Eurogang

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[7] We thank an anonymous reviewer for raising this point.

indicators are required. Nevertheless, prior research on self-nomination within the US has often been conducted using non-random samples (Bjerregaard 2002; Carson et al. 2013; Esbensen et al. 2001). Given the consistency with which self-nomination relates to a host of antisocial behaviors, and more recently gang embeddedness, we would expect findings similar to those presented here would be found in diverse research settings.

In the end, consistent with its tradition in criminology, the self-nomination technique is quite robust across gang statuses and in the face of a number of relevant empirical and theoretical control variables. While some individuals may continue to claim that "gangs" are little more than labels created and perpetuated by law enforcement and ivory tower academics, such a view fails to acknowledge the empirical reality of such groups. In our view, such a position is detrimental to the study of deviance, generally, and antisocial groups, specifically. Ironically, it may allow such groups to flourish as prevention efforts—less costly and intrusive—may be withheld for concern over mis-identification of individuals as gang members.

Appendix

See Table 5.

Table 5 Gang embeddedness graded response model

Item	Item discrimination α	Response categories, prevalences, and parameters					
		β₁	β₂	β₃	β₄	β₅	β₆
Position		No position	Affiliate	Member	Top person	Leader	
		32 %	11 %	28 %	18 %	11 %	
	3.04 (.17)	−0.43 (.04)	−.04 (.04)	.75 (.05)	1.38 (.07)		
Importance		Not at all important	A little bit	Moderately	Quite a bit	Extremely	
		40 %	11 %	8 %	10 %	31 %	
	6.22 (.58)	−.20 (.04)	.11 (.03)	.34 (.03)	.60 (.04)		
Attack (past year)		Never	Once	Two or three times	Four or five times	More than five times	
		44 %	6 %	14 %	8 %	29 %	
	3.06 (.19)	−.14 (.04)	.06 (.04)	.46 (.04)	.70 (.05)		
Contact		Never	Less than monthly	Once or twice a month	Once a week	Two to six times a week	Daily
		26 %	7 %	7 %	6 %	15 %	38 %
	3.08 (.18)	−.75 (.05)	−.45 (.04)	−.21 (.04)	.01 (.04)	.45 (.04)	
Friends		None	A few	Half	Most	All	
		16 %	15 %	11 %	27 %	31 %	
	2.45 (.14)	−1.26 (.06)	−.56 (.05)	−.17 (.04)	.65 (.05)		

N = 1,258 as current and peak embeddedness responses are pooled

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