

Girls in Gangs: Exploring Risk in a British Youth Context

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Zenta E. Gomez Auyong¹, Sven Smith¹,
and Christopher J. Ferguson¹

Abstract

The existing literature on gangs has largely focused on boys from the United States. Using data from the Avon Longitudinal Study of Parents and Children (ALSPAC), this study investigated select individual, peer, and community risk factors that differentiate gang and nongang girls in the United Kingdom. We find that 48.3% of gang-involved youth were girls, and that gang girls commit more crime than nongang girls. Furthermore, girls who live in socially disorganized neighborhoods are more likely to be members of gangs. The current research suggests that focusing on girls' community environments may be beneficial to reducing gangs in the United Kingdom.

Keywords

gangs, girls and crime, ALSPAC, European gangs, risk factors

Although the literature indicates that the gang gender gap is narrowing, much U.K. and U.S. research on the risk factors for gang involvement use male samples and/or male-centered models (Alleyne & Pritchard, 2016; De La Rue, Polanin, Espelage, & Pigott, 2014). Furthermore, most research on gangs use cross-sectional data (O'Brien, Daffern, Chu, & Thomas, 2013), and studies exploring early risk factors and later gang involvement have also

¹Stetson University, DeLand, FL, USA

Corresponding Author:

Zenta E. Gomez Auyong, Stetson University, 421 N. Woodland Blvd.,
DeLand, FL 32723, USA.

Email: zauyong@stetson.edu

largely relied on data from the United States (Howell & Egley, 2005). The purpose of this study is to examine the predictive utility of several risk factors regarding girls' gang involvement in a U.K. setting. Furthermore, this research effort utilizes longitudinal data, allowing for the exploration of early childhood psychological and behavioral factors' predictive value regarding girls' adolescent gang outcomes.

Risk Factors

While there is a substantial amount of research exploring risk factors for youth gang membership, not only have most focused on men and boys, but a large majority have utilized U.S. samples. Much less is known about the risk factors for European gangs, though emerging research suggests the known risk factors appear to generally apply in European settings (Haymoz, Maxson, & Killias, 2014; Klein, Weerman, & Thornberry, 2006; O'Brien et al., 2013). Furthermore, studies investigating whether the significance of known risk factors remains when applied to girls are comparatively less common (Alleyne & Pritchard, 2016).

Individual Risk Factors

Individual risk factors of gang membership have been extensively researched (Esbensen, Peterson, Taylor, & Freng, 2009; Howell & Egley, 2005; Merrin, Hong, & Espelage, 2015). For instance, researchers often explore age, gender, and race as basic risk factors. The literature suggests that youth are most likely to enter gangs during adolescence, and more specifically, between the ages of 14 and 18 years (Glesmann, Krisberg, & Marchionna, 2009; Hill, Lui, & Hawkins, 2001). However, some studies have found the age of entry to be significantly younger, noting an average age of entry of 11 years (Klein, 1995), and girls are more likely to both enter and exit gangs at younger ages than boys (Bell, 2009; Chesney-Lind, 2013). In the United Kingdom, one study exploring gang and nongang youth in London schools found that gang members are more likely to be older than nongang youth (Alleyne & Wood, 2014). In terms of gender composition, a large majority of gang members are boys and men (Hill et al., 2001). However, research finds substantial proportions of girls in youth gangs both in Europe and in the United States (Alleyne & Wood, 2010; Glesmann et al., 2009; Hayward & Honegger, 2014). For example, Esbensen and Huizinga (1993) reported that girls made up 46% of gang membership in Denver. Regarding race and ethnicity, the literature has long established that youth gangs are racially diverse, but there are variations in the level of involvement. In general, most research suggests that racial

minorities are more likely to be involved in gangs than White youth (Hill et al., 2001; Merrin et al., 2015; Yiu & Gottfredson, 2014). Research using the National Longitudinal Study of Adolescent Health suggests that girl gang members are less likely to be Hispanic than boy gang members, but more likely to be Hispanic than nongang girls. Furthermore, girl gang members are less likely to be immigrants than nongang girls (Bell, 2009). However, research from the United Kingdom by Alleyne and Wood (2014) did not observe differences in ethnic background for gang-involved and nongang youth.

The relationship between drug use and gang participation is generally well established, with gang membership increasing both the use and sale of drugs among girls and boys (Chesney-Lind, 2013; Gottfredson & Gottfredson, 2001; Howell & Egley, 2005). For example, research comparing girls in gangs with those not in gangs within the same community found higher rates of drug use among gang members (Esbensen & Huizinga, 1993). However, Thornberry and colleagues (1993) found that drug use was not higher among gang members before entering a gang, but did increase after gang membership.

Although support for psychological risk factors and gang membership has been less uniform than for other individual factors (Lenzi et al., 2015), there is some evidence that aggression, oppositional behaviors, hyperactive behaviors, depression, and low self-esteem may be associated with gang involvement (Craig, Vitaro, Gagnon, & Tremblay, 2002; Donnellan, Trzesniewski, Robins, Moffitt, & Caspi, 2005; Hill et al., 2001; Merrin et al., 2015; Yoder, Whitbeck, & Hoyt, 2003). However, the findings are not always consistent. For example, some studies have not found support for the relationship between self-esteem and gang membership (Esbensen et al., 2009; Lemus & Johnson, 2008). Alleyne and Pritchard (2016), for instance, compared gang and nongang girls in the United Kingdom, and did not find a relationship between girls' self-esteem and gang membership. However, they did find that gang girls were more likely to have antiauthority attitudes.

Peer Risk Factors

The adverse consequences of delinquent peers are one of the most consistent findings in the literature (Lenzi et al., 2015). This risk factor has been observed in both United States and European gang research (Haymoz et al., 2014), and among both girls and boys (Chesney-Lind, 2013; Joe & Chesney-Lind, 1995). Association with delinquent peers is strongly associated with youth gang involvement for both boys and girls (Craig et al., 2002; Esbensen,

Huizinga, & Weiher, 1993; Gottfredson & Gottfredson, 2001; K. G. Hill, Howell, Hawkins, & Battin-Pearson, 1999) as is unstructured socializing with delinquent peers, and having few prosocial peers (Esbensen et al., 2009). Bell (2009) found that gang-involved girls are more likely to experience peer fighting than nongang girls. Research has also indicated that many girl gang members have friends and siblings in gangs, as do boys in gangs (Chesney-Lind, 2013). The literature suggests the role of peers is part of an interactional process. This process may start with rejection from prosocial peers, followed by association with delinquent peers, then increased delinquency, and leading to greater likelihood of gang involvement (Howell & Egley, 2005).

Community Risk Factors

Gangs are commonly associated with disadvantaged neighborhoods, and the literature suggests a relationship between community factors and youth gang involvement. Community and neighborhood risk factors for youth gang membership include perceived lack of safety in the community, neighborhood disorganization, concentrated disorganization (e.g., lack of resources, high crime, access to drugs, etc.), and low neighborhood attachment/involvement (K. G. Hill et al., 1999). Both boys and girls report entering gangs for “protection” (Chesney-Lind, 2013; Esbensen, Deschenes, & Winfree, 1999). Some research also indicates that girl gang members experience more neighborhood disorder and crime and less school safety than both girls who are not in gangs and boys who are in gangs (Bell, 2009). The presence of gangs in the neighborhood also increases youth gang involvement (Alleyne & Wood, 2014; Thornberry et al., 2003), but youth who feel they have adult support in the neighborhood and feel safe in the community are less likely to join gangs (Merrin et al., 2015).

Victimization as a Risk Factor

Girls who join gangs are more likely to have experienced physical and sexual abuse than girls who do not join gangs (Sutton, 2017), and may seek gangs for protection, a sense of “family,” and to escape a history of trauma (Chesney-Lind, 2013; Esbensen et al., 1999; Hayward & Honegger, 2014; Sutton, 2017). De La Rue et al. (2014) find that girls who have experienced sexual abuse and family conflict are more likely to join gangs. Girls in gangs may be able to reduce victimization from certain threats by joining gangs, yet increase the risk of victimization by members of their own gang (Miller, 1998).

Present Study

This exploratory study was an effort to enhance understanding of female gang involvement in a European setting, a developing area of research. We aimed to examine empirically supported risk factors' ability to predict gang involvement among adolescent girls. Furthermore, this research effort utilized longitudinal data, allowing for the inclusion of early childhood psychological and behavioral factors on adolescent gang outcomes. Using data from a British longitudinal cohort study, the Avon Longitudinal Study of Parents and Children (ALSPAC), this study investigated the role of key individual, peer, and community risk factors for youth gang involvement in a British context.

Participants

The ALSPAC recruited 14,541 pregnant women residents in Avon, UK, with expected dates of delivery April 1, 1991, to December 31, 1992. 14,541 is the initial number of pregnancies for which the mother enrolled in the ALSPAC study and had either returned at least one questionnaire or attended a "Children in Focus" clinic by July 19, 1999. Of these initial pregnancies, there were 13,988 children who were alive at 1 year of age. An attempt was made to bolster the initial sample when the oldest children were 7 years of age, increasing the number beyond 14,541 by two more phases of participants to be paired up with previous cohorts by age. The phases of enrollment and cohort are described with detail in Boyd et al. (2013). The total number of participants was increased to 15,445 children.

The study then revisited these children at several different intervals during their life, through to adulthood. Independent variables were collected from the mother when the child was almost 5 years old (57 months) and then again at 7 years old. Outcome variables related to criminal delinquency were collected from the child at 15.5 years old. Complete data on violent delinquency were available for 2019 participants. As such, this subset constitutes the sample of the present study. Further details of the study aim and design as well as data dictionary are available (www.ich.bris.ac.uk/alspacext/). The sample was about equal male (50.6%) and female. The sample was also overwhelmingly Caucasian (99.8%). Ethical approval for the study was obtained from the ALSPAC Ethics and Law Committee and the Local Research Ethics Committees.

Measures

Table 1 includes basic information on all variables and scales included in the current analysis. All measures comprised continuous scales unless otherwise indicated.

Table 1. Descriptives: Risk Factors and Female Gang Membership.

Variable	<i>n</i>	%			
Sex					
Male	7,635	51.4			
Female	7,219	48.6			
Race					
White	11,537	95.0			
Non-White	613	5.0			
Female gang membership					
Yes	72	96.1			
No	1,759	3.9			
	Minimum	Maximum	<i>M</i>	<i>SD</i>	
Time 1 (5 years) Aggression	20	60	25.45	4.100	
ADHD DAWBA bands	0	5	0.6726	1.020	
Depression DAWBA bands	0	5	0.4436	0.686	
Oppositional defiant disorder	1	5	1.850	0.758	
Hard drug use	7	14	13.640	0.941	
Differential association	0	11	0.884	1.620	
Social disorganization	14	42	16.921	4.360	
Violent victimization	0	3	0.208	0.563	
Property Victimization	0	2	0.166	0.418	
Sexual victimization	0	1	0.964	0.186	
Race motivated victimization	0	1	0.010	0.101	

Note. DAWBA = Development and Well-Being Assessment.

Gang Membership/Delinquency

Delinquency traits were assessed in ALSPAC when the participants were approximately 16 to 17 years of age. They were asked a child-completed questionnaire regarding the frequency they had performed certain delinquent activities in the last year. The 15 questions included topics regarding how often the young person hit, spat, or had thrown stones at someone they knew; hit/kicked/punched someone else on purpose with the intention of really hurting them; and deliberately damaged or destroyed property that did not belong to them. A total delinquent trait score was calculated by summing these responses ($\alpha = .813$). If respondents said “yes” to any of these questions in the scale and said “yes” to the question of whether they were ever in a gang, respondents were grouped into the “yes” side of the created binary variable, “in a criminal gang.”

We note two things. First, including the delinquency component attempts to address the issue of female involvement in criminal activity from multiple contexts (Weerman, Lovegrove, & Thornberry, 2015). Thus, we consider both self-reported gang membership as well as delinquent behavior more generally. Second, the measures regarding the dependent variables were constructed when the respondents were 15.5 and 17. The implications from this information frame our study as a correlational analysis.

Independent Variables

The independent variables are a combination of psychological tests and surveys of mother's and children's perceptions of the children's individual characteristics. Based on prior research and within the limitation of the data, we selected several theoretically relevant factors to explain criminal gang membership. Specifically, the independent variables concerning respondent's sex, race, and the psychological measures were conducted at 5 to 7 years of age. Drug use, social structural variables, and victimization were recorded at 17. All scales described below used Likert-type items unless described otherwise.

Sex/race. Individual, binary characteristics include race (with 1 representing "non-White") and sex (with 1 representing "female").

Individual Risk Measures

Attention deficit hyperactivity disorder (ADHD) scale. ADHD traits were assessed in ALSPAC when the participants were 7 years 7 months of age using the parent-completed Development and Well-Being Assessment (DAWBA). For each ADHD item, parents marked boxes to say whether their child showed the behavior; these were coded 0 for "no," 1 for "a little more than others," and 2 for "a lot more than others." A total ADHD trait score was calculated by summing these responses to give a possible range of 0 to 36. The DAWBA then assigned children to "bands" based upon their levels of symptoms relative to other children and likelihood of having a clinical diagnosis. These bands were used as control variables.

Depression. As with ADHD, 7-year-old depression symptoms were assessed using the DAWBA system. As noted above, the DAWBA then assigned children to "bands" based upon their levels of symptoms relative to other children and likelihood of having a clinical diagnosis.

Oppositional defiant disorder. The handful of studies that have examined the role of aggression and conduct problems in predicting antisocial behavior found that

individuals with conduct problems and ADHD were more likely to engage in criminal behavior as compared with those with a history of ADHD without associated conduct problems. Satterfield, Swanson, Schell, and Lee (1994) found 43% of their subject arrestees with high defiance scores and only 26% with low defiance scores with such an arrest. Seven-year-old oppositional defiant disorder symptoms were assessed using the DAWBA system. As noted above, the DAWBA then assigned children to “bands” based upon their levels of symptoms relative to other children and likelihood of having a clinical diagnosis.

Early childhood aggression scale. This was a 20-item series of yes–no questions asking the mother whether the child kicks, hits, fights, swears at, uses angry words with children who are family, adults who are family, children who are not family, and adults who are not family ($\alpha = .84$). This scale was assessed at almost 5 years (57 months) and was included here as a means of assessing early developmental aggression.

The literature suggests continuity between early aggressive behavior and later criminal involvement (Hawking et al., 2000).

Hard drug use. This was a 7-item series of yes–no questions asking the teenager whether they had ever used “hard” drugs such as cocaine, opioids, pills, and so on ($\alpha = .717$). This scale was assessed at 17 years of age and was negatively coded to correspond with the method by which the data were recorded (chosen by ALSPAC). Gang membership has been associated with drug sales. However, there is both a legal and substantive difference between more common substances and hard drugs which prior literature has been found to be associated with gang membership (Katz et al., 2005). However, cigarette, alcohol, and marijuana use are very prevalent, so these items were removed in order so that any correlation would be more informative.

Victimization. This was a series of questions asked of the respondents regarding property victimization (three questions/ $\alpha = .721$), violent victimization (three questions/ $\alpha = .713$ asking whether the respondent has been threatened, hit, or struck with a weapon), sexual victimization (one question asking whether the respondent has had an adult indecently expose themselves to them), and racial victimization (one question asking whether someone has picked on young person because of race).

Peer Risk Measure

Differential association. Akers, Giacomino, and Trebby (1997) and most of the subculture literature regarding criminality proposes that crime is learned

through the development of beliefs that crime is acceptable in some situations; the positive reinforcement of criminal involvement (e.g., approval of friends, financial gains); and the imitation of the criminal behavior of others in their cultural setting. Peer associations have been found to be correlational and even predictive of involvement in criminal activities (Akers et al., 1997).

The differential association scale was an 11-item series of yes–no questions asking the teenager whether they associate with friends who fight, steal, use alcohol and drugs, and are publicly unruly ($\alpha = .845$). This scale was assessed between 16 and 17 years of age and was included here as a means of assessing early social influence.

Community Risk Measure

Culture provides different opportunities for learning behavior and street culture is no different. Such culture may provide criminal opportunities; it may also enhance possibilities of exposure to a means of accessing markets that fund gang activities (Webster, MacDonald, & Simpson, 2006). Similarly, such exposure may impede any initiative toward decriminalization (Webster et al., 2006). In the cities wherein insecurity and instability are prevalent, organizations are more likely to flourish. Gangs and gang populations may increase (Sullivan, 2006).

This notion is not without its critics, however. Some argue that attributing social action to organizational influence discounts the agency and psychology of the individual (Emler & Reicher, 1995). Our study is designed to comment on this tension.

Social disorganization. Where there is social disorganization, there is also likely to be street gangs consisting of local youth (Chin, 1996; Goldstein, 1991; Howell & Decker, 1999; Howell, Egley, & Gleason, 2002; Huff & Trump, 1996; Klein, 1995; Knox, 1994; Spergel, 1995) and low socioeconomic status (Chettleburgh, 2007; Rizzo, 2003). Young people living in neighborhoods with high rates of delinquency are more likely to commit delinquent acts than are their counterparts living in areas of low delinquency (K. G. Hill et al., 1999; Hill et al., 2001), and gang members have higher rates of delinquency than their nongang counterparts (Howell & Decker, 1999). Social disorganization may encourage criminal gang membership.

The social disorganization scale was a 14-item series of yes–no questions asking the teen whether the neighborhood the teen lives in is disorganized in that it has broken windows, stray dogs, vandalized cars, graffiti, and needles

in the street ($\alpha = .920$). This scale was assessed at 17 and was included here as a means of assessing neighborhood organization.

Analysis

We first wanted to investigate the risk factors associated with delinquency among females. We reduced the delinquency questions to dichotomous variables and created a delinquency scale. From this scale, we created a binary variable representing a distinction between “criminal activity among females” and “no criminal activity among females.” To exemplify, if a respondent answered “yes” to any one of the questions regarding delinquency, they scored criminal activity, and if they did not answer “yes” to any of the questions regarding delinquency, they scored a “0.” Then, we explored the risk factors (see Table 1) that encourage criminal involvement. Using *t* tests, we determined what risk factors have significant differences between these two groups (criminality and noncriminality; see Table 2). These determined what variables would be considered in the logistic regression equation (see Table 3). Recognizing that reducing the delinquency scale to a binary distinction would sacrifice variability, we created a linear regression equation with these same variables (see Table 4) as well as sex on the dependent variable of the delinquency scale (inclusive of males and females). This also indicated how determinative sex was in comparison with other factors.

Females in a Criminal Gang

Next, we wanted to review the risk factors associated with criminal gang involvement among females. Using *t* tests, we determined what risk factors have significant differences between these two groups (see Table 3). We examined the possible explanations of what type of female respondents join criminal gangs. Given the dichotomous nature of the dependent variable, we used a logistic regression technique.

A Note on Trivial Effects

Large samples can sometimes return “statistically significant” results which, nonetheless, are trivial in practical value or which may be due to “noise” rather than true effects. As such, we cautiously interpret our coefficients. This light treading may help prevent the overinterpretation of potentially Type I error results.

Table 2. Risk Factors for Crime Commission Among Females.

	Bivariate effects					Multivariable effects				
	diff	t	SE	p	95% CI-LB	95% CI-UB	b	OR	SE	p
Social disorganization	-0.717	-3.539	0.203	<.001	-1.115	-0.320	0.046	1.047	0.020	.023
Association scale	-0.431	-6.112	0.071	<.001	-0.569	-0.293	0.256	1.292	0.070	<.001
Hard drug use	0.183	4.408	0.037	<.001	0.111	0.256	-0.125	0.883	0.089	.162
Oppositional defiance	-0.118	-4.162	0.028	<.001	-0.174	-0.063	0.366	1.442	0.107	.001
Violent and property victim	-0.077	-4.366	0.018	<.001	-0.011	-0.042	0.190	1.210	0.144	.186
ADHD band	-0.009	-0.285	0.030	.776	-0.068	0.051				
Violent crime victim	-0.077	-4.366	0.018	<.001	-0.011	-0.042				
Race	-0.006	-0.811	0.008	.428	-0.003	0.010				
Aggression scale	-0.079	-1.017	0.153	.100	-1.091	-0.490				
Depression	-0.047	-1.631	0.029	.103	-0.103	0.010				
Property victimization	-0.045	-2.576	0.018	.010	-0.080	-0.011				
Sexual victimization	-0.006	-0.145	0.043	.885	-0.091	0.079				
Racial victimization	-0.004	-0.920	0.005	.358	-0.013	0.005				

Note. CI = confidence interval; LB = lower bound; UB = upper bound; OR = odds ratio.

Table 3. Risk Factors for Crime Scale.

Independent variable	<i>b</i>	SE	Standardized <i>B</i>	<i>p</i>	VIF
Social disorganization	0.037	0.010	0.078	.000	1.065
Association	0.321	0.026	0.291	.000	1.342
Hard drug use	-0.337	0.041	-0.176	.000	1.141
Oppositional defiant disorder	0.144	0.053	0.055	.007	1.021
Sex (female = 1)	-0.374	0.076	-0.101	.000	1.041
Property and violent victimization	0.353	0.059	0.137	.000	1.277
Race (non-White = 1)	-0.148	0.196	-0.015	.449	1.006

Note. VIF = variation inflation factor.

Results

Demographic Characteristics

In total, 7,219 (48.6%) of the participants (*N* = 14,854) identified as female. Sixty-five percent (*n* = 1,839) of the females who gave valid answers to the delinquency questions admitted to at least one crime. Of the 7,219 female participants, 102 females qualified as criminal, gang members. The race/ethnicity information is limited; 10.6% of the total non-White sample were identified as youth gang members (*n* = 13), and 4.3% of the total White sample identified as youth gang members. This was typical to the sample. Five percent (*n* = 613) of the valid responses to the race question (*N* = 12,150) identified as non-White. Most likely due to the lack of diversity in responses to the race question, *t* tests were insignificant; that variable was not a statistically significant contributor to the strength of any of the models; race was not included in the regression models discussed below.

Risk Factors for Criminal Females

Logistic regression. The regression model was significant ($\chi^2 = 52.584, p < .001$), explaining 7% of the variation in the dependent variable (Nagelkerke's $R^2 = .065$). The model contained all variables found to be significant in the *t* tests: differential association, social disorganization, oppositional defiant disorder, victimization, and hard drug use. Of these variables, only differential association, social disorganization, and the oppositional defiant disorder are significant in the regression model, and all three were positively correlated with greater likelihood of committing delinquent acts among females. All three relationships were weak to moderate: differential association $B(\text{Exp}) = 1.292$, social disorganization $B(\text{Exp}) = 1.047$, and

Table 4. Risk Factors for Gang Membership Among Women Who Admit Crime Commission.

	Bivariate effects						Multivariable effects					
	diff	t	SE	p	95% CI-LB	95% CI-UB	b	OR	SE	p		
Social disorganization	-1.943	-2.881	0.674	.005	-3.285	-0.601	0.080	1.084	0.028	.040		
Association scale	-0.902	-2.814	0.320	.006	-1.540	-0.263	0.011	1.012	0.091	.900		
Hard drug use	0.301	2.248	0.134	.027	0.036	0.566	-0.219	0.803	0.124	.077		
ADHD band	-0.259	-2.490	0.104	.015	-0.466	-0.052	0.308	1.360	2.554	.110		
Violent crime victim	-0.229	2.248	0.134	.027	0.036	0.566	0.290	1.337	0.292	.320		
Race	-0.030	-1.117	0.027	.267	-0.082	0.023						
Aggression scale	-0.486	-1.113	0.437	.266	-1.343	0.371						
Oppositional defiance	-0.117	-1.584	0.074	.113	-0.261	0.028						
Depression	-0.008	-0.109	0.075	.913	-0.155	0.139						
Property victimization	-0.037	-0.853	0.043	.394	-0.120	0.047						
Sexual victimization	0.063	0.739	0.086	.474	-0.123	0.250						
Racial victimization	0.011	3.482	0.003	.100	0.005	0.018						

Note. CI = confidence interval; LB = lower bound; UB = upper bound; OR = odds ratio.

oppositional defiant disorder $B(\text{Exp}) = 1.442$. The significance of these variables highlighted by the lack of significant findings with the other variables suggests that structural and social influences are more determinative (if any are at all) of criminality.

Linear regression. To further investigate the relationship between sex and criminality, we looked at the predictive relationship between sex and criminality while controlling for the factors from the previous model. The model was significant with moderate explanatory power ($R^2 = .269$ $p < .001$), explaining 27% of the variation in the dependent variable. The model contained all variables found to be significant in the t tests. These were differential association, social disorganization, oppositional defiant disorder, victimization, and hard drug use. Race was included in the model to account for possibilities of facilitation. All variables other than race were significant. Differential association ($B = 0.299$) was the most predictive of delinquency. Unsurprisingly, being female was related to lower outcomes on the delinquency scale. Hard drug use was related to greater delinquency. Social disorganization also correlated with increased criminal behavior. Collinearity (variation inflation factor [VIF] scores) measures were within acceptable range on all variables. Of these variables, only differential association, social disorganization, and the oppositional defiant disorder were significant, and all three were positively correlated with greater likelihood of committing delinquent acts among females. All three social, structural relationships were moderate and more predictive than the psychological variables. This also suggests that structural and social factors may have a strong influence on criminality among females.

Females in a Criminal Gang

Logistic regression. The model was significant ($\chi^2 = 19.064$, $p < .001$), explaining 7% of the variation in the dependent variable (Nagelkerke's $R^2 = .066$). The model contained all variables found to be significant in the t tests: differential association, social disorganization, oppositional defiant disorder, victimization, and hard drug use. Of these variables, only social disorganization was significant and positively correlated with greater likelihood of joining a gang among criminal females. The relationship was weak to moderate: social disorganization $B(\text{Exp}) = 1.084$.

Overall, the triangulating implications of the three models suggest that structural and social influences have an influence on criminal gang membership.

Discussion

The purpose of this study was to empirically explore risk factors for gang involvement among girls in the United Kingdom. Studies investigating whether the significance of known risk factors remains when applied to girls are limited (Alleyne & Pritchard, 2016), and research on U.K. gangs remain comparably less common (Alleyne & Wood, 2014; Medina-Ariza, Cebulla, Aldridge, Shute, & Ross, 2014). The current effort aimed to address these concerns. Using data from a British longitudinal cohort study, the ALSPAC, this study investigated select individual, peer, and community risk factors that differentiate gang and nongang girls in the United Kingdom.

Looking at the overall sample, girls are less likely to commit crime than boys, yet 65% of all girls had committed at least one crime. This finding aligns with past research and general criminological knowledge that girls are less criminal than boys. However, we should not discount the importance of studying low- to mid-frequency female offenders, as their actions still have impact on society.

Among girls, delinquent peers, social disorganization, and oppositional defiance disorder are associated with increased likelihood of criminality. The structural relationships were moderate and noticeably more predictive than the psychological variables. This may suggest that structural and social factors have a stronger influence on criminality among girls.

Our study is comparable with past research which has found that there are substantial proportions of girls in youth gangs (Alleyne & Wood, 2010; Esbensen & Huizinga, 1993; Glesmann et al., 2009; Hayward & Honegger, 2014). The present effort finds that 48.3% of gang-involved youth were 16/17-year-old girls. Furthermore, the findings suggest that gang-involved girls commit more crime than girls not involved in gangs. This finding is consistent with the literature, and further emphasizes the need to consider girls when investigating the impact of gangs on communities.

Research suggests that girls are more likely to have experienced victimization and that victimization may associate with gang membership. However, there was no difference in victimization of gang-involved and nongang-involved girls. We note that it is possible that this is a result of the limited information on sexual and domestic abuse in our measure of victimization, as prior research has found that girls in gangs are more likely to be victims of all forms of abuse, but particularly these forms (De La Rue et al., 2014; Moore & Hagedorn, 2001).

Differential association, oppositional defiant disorder, victimization, and hard drug use did not increase the likelihood of girls joining gangs. Only social

disorganization was significant and positively correlated with gang membership among girls. More specifically, girls who live in socially disorganized neighborhoods (measured by graffiti, stray dogs, needles on the street, vandalized cars, broken windows, etc.) are more likely to be members of youth gangs. Social disorganization is often correlated with street gangs and delinquency among both girls and boys (Bell, 2009; Chin, 1996; Goldstein, 1991; Howell & Decker, 1999; Howell et al., 2002; Huff & Trump, 1996; Klein, 1995; Knox, 1994; Spergel, 1995), as well as higher crime (Esbensen et al., 1993). Youth may be seeking sources of support and safety in response to a chaotic environment (Lenzi et al., 2015), and past research has suggested that girls enter gangs seeking “protection” (Chesney-Lind, 2013). Although the results of the overall model were modest, future research may want to apply a social disorganization framework when examining girls in U.K. youth gangs.

While the correlational design of this study limits claims of causality, temporal precedence is still relatively well established, as most survey respondents are unlikely to have joined a gang before the age of roughly seven when most of the disorders in this study were diagnosed. The size of our sample also presented limitations in that there was insufficient statistical power to support a path model. We encourage further research to explore the interaction of variables in girl’s pathways toward gang membership (Howell & Egley, 2005).

The findings of this exploratory effort support the assertion that it is necessary to have both gender-specific and gender-neutral approaches to addressing gang membership. While this study did not observe differences in victimization among gang and nongang girls, ultimately, girls and boys have different experiences and pathways to criminality. Our research suggests that focusing on girls’ peer and community environments may be beneficial to reducing both girls’ criminality and gang membership in the United Kingdom. In other words, while this is often noted in studies using data from the United States, the current effort finds that the impact of community on gang membership extends to both girls and the United Kingdom. Programs encouraging youth to develop prosocial friendships and engage in normative peer activities may be potential paths to reducing girls’ criminality. Furthermore, focusing on disorganized neighborhoods may be a valuable pathway to decrease girls’ gang involvement in the United Kingdom. Future research should explore protective factors in the community domain, as it may lead to policy suggestions to aid in reducing gang membership among girls.

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References

- Akers, M. D., Giacominio, D. E., & Trebby, J. P. (1997). Designing and implementing an accounting assessment program. *Issues in Accounting Education, 12*(2), 259-280.
- Alleyne, E., & Pritchard, E. (2016). Psychological and behavioral characteristics differentiating gang and non-gang girls in the UK. *Journal of Criminological Research, Policy and Practice, 2*, 122-133.
- Alleyne, E., & Wood, J. L. (2010). Gang involvement: Psychological and behavioral characteristics of gang members, peripheral youth and non-gang youth. *Aggressive Behavior, 36*, 423-436.
- Alleyne, E., & Wood, J. L. (2014). Gang involvement: Social and environmental factors. *Crime & Delinquency, 60*, 547-568.
- Bell, K. E. (2009). Gender and gangs: A quantitative comparison. *Crime & Delinquency, 55*, 363-387.
- Boyd, A. et al. (2013). Cohort profile: The 'children of the 90's'- the index offspring of the Avon Longitudinal Study of Parents and Children. *International Journal of Epidemiology, 42*, 111-127.
- Chesney-Lind, M. (2013). How can we prevent girls from joining gangs? In: Simon, T. R., Ritter, N.M., & Mahnedra, R. R. editors. *Changing Course: Preventing Gang Membership*. Washington, D. C.: National Institute of Justice and Centers for Disease Control and Prevention, 121-133.
- Chettleburgh, M. (2007). *Young thugs inside dangerous world*. Toronto, Ontario, Canada: HarperCollins.
- Chin, K. (1996). *Chinatown gangs: Extortion, enterprise, and ethnicity*. New York: Oxford University Press.
- Craig, W. M., Vitaro, F., Gagnon, L., & Tremblay, R. E. (2002). The road to gang membership. Characteristics of male gang and nongang members from ages 10 to 14. *Social Development, 11*, 53-68.
- De La Rue, L., Polanin, J., Espelage, D., & Pigott, T. (2014). School-based interventions to reduce dating and sexual violence: A systematic review. *Campbell Systematic Reviews*, Retrieved from <http://www.campbellcollaboration.org/lib/project/268/>.
- Donnellan, M. B., Trzesniewski, K. H., Robins, R. W., Moffitt, T. E., & Caspi, A. (2005). Low self-esteem is related to aggression, antisocial behavior, and delinquency. *Psychological Science, 16*, 328-335.
- Emler, N., & Reicher, S. (1995). *Adolescence and delinquency: The collective management of reputation*. Cambridge: Blackwell Publishing.
- Esbensen, F. A., Deschenes, E. P., & Winfree, L. T., Jr. (1999). Differences between gang girls and gang boys: Results from a multisite survey. *Youth & Society, 31*, 27-53.

- Esbensen, F. A., & Huizinga, D. (1993). Gangs, drugs, and delinquency in a survey of urban youth. *Criminology*, *31*, 565-589.
- Esbensen, F. A., Huizinga, D., & Weiher, A. W. (1993). Gang and non-gang youth: Differences in explanatory factors. *Journal of Contemporary Criminal Justice*, *9*(2), 94-116.
- Esbensen, F. A., Peterson, D., Taylor, T. J., & Freng, A. (2009). Similarities and differences in risk factors for violent offending and gang membership. *Australian & New Zealand Journal of Criminology*, *42*, 310-335.
- Glesmann, C., Krisberg, B., & Marchionna, S. (2009). *Youth in gangs: Who is at risk? Views From the National Council on Crime and Delinquency*: Oakland, CA: FOCUS.
- Goldstein, W. N. (1991). Clarification of projective identification. *American Journal of Psychiatry*, *148*, 153-161.
- Gottfredson, G. D., & Gottfredson, D. C. (2001). What schools do to prevent problem behavior and promote safe environments. *Journal of Educational and Psychological Consultation*, *12*, 313-344.
- Hawkins, J. D., Todd, I. H., Farrington, D. P., Brewer, D., Catalano, R. F., Harachi, T. W., & Cothorn, L. (2000). *Predictors of youth violence*. Washington, D. C.: U.S., Department of Justice.
- Haymoz, S., Maxson, C., & Killias, M. (2014). Street gang participation in Europe: A comparison of correlates. *European Journal of Criminology*, *11*, 659-681.
- Hayward, R. A., & Honegger, L. (2014). Gender differences in juvenile gang members: An exploratory study. *Journal of Evidence-Based Social Work*, *11*, 373-382.
- Hill, K. G., Howell, J. C., Hawkins, J. D., & Battin-Pearson, S. R. (1999). Childhood risk factors for adolescent gang membership: Results from the Seattle Social Development Project. *Journal of Research in Crime and Delinquency*, *36*, 300-322.
- Hill, K. G., Lui, C., & Hawkins, J. D. (2001). *Early precursors to gang membership: A study of Seattle youth*. U.S. Department of Justice. Washington, D.C.: Office of Juvenile Justice and Delinquency Prevention.
- Howell, J. C., & Decker, S. H. (1999). The youth gangs, drugs, and violence connection. *Juvenile Justice Bulletin*, Washington, DC: US Department of Justice, Office of Justice Programs, OJJDP.
- Howell, J. C., & Egley, A., Jr. (2005). Moving risk factors into developmental theories of gang membership. *Youth Violence and Juvenile Justice*, *3*, 334-354.
- Howell, J. C., Egley, A., & Gleason, D. K. (2002). Modern-day youth gangs. *OJJDP Bulletin*.
- Huff, C. R., & Trump, K. S. (1996). Youth violence and gangs: School safety initiatives in urban and suburban school districts. *Education and Urban Society*, *28*, 492-503.
- Joe, K. A., & Chesney-Lind, M. (1995). "JUST EVERY MOTHER'S ANGEL": An analysis of gender and ethnic variations in youth gang membership. *Gender & Society*, *9*, 408-431.

- Katz, C. M., Webb, V. J., & Decker, S. H. (2005). Using the arrestee drug abuse monitoring (ADAM) program to further understand the relationship between drug use and gang membership. *Justice Quarterly*, 22, 58-88.
- Klein, M. W. (1995). *The American street gang: Its nature, prevalence, and control*. New York, NY: Oxford University Press.
- Klein, M. W., Weerman, F. M., & Thornberry, T. P. (2006). Street gang violence in Europe. *European Journal of Criminology*, 3, 413-437.
- Knox, G. W. (1994). *An introduction to gangs*. Bristol, IN: Wyndham Hall Press.
- Lemus, E. L., & Johnson, F. A. (2008). Relationship of Latino gang membership to anger expression, bullying, ethnic identity, and self-esteem. *Journal of Gang Research*, 16(1), 13-32.
- Lenzi, M., Sharkey, J., Vieno, A., Mayworm, A., Dougherty, D., & Nylund-Gibson, K. (2015). Adolescent gang involvement: The role of individual, family, peer, and school factors in a multilevel perspective. *Aggressive Behavior*, 41, 386-397.
- Medina-Ariza, J. J., Cebulla, A., Aldridge, J., Shute, J., & Ross, A. (2014). Proximal adolescent outcomes of gang membership in England and Wales. *Journal of Research in Crime & Delinquency*, 51(2), 168-199.
- Merrin, G. J., Hong, J. S., & Espelage, D. L. (2015). Are the risk and protective factors similar for gang-involved, pressured-to-join, and non-gang-involved youth? A social-ecological analysis. *American Journal of Orthopsychiatry*, 85, 522-535.
- Miller, J. (1998). Gender and victimization risk among young women in gangs. *Journal of Research in Crime and Delinquency*, 35, 429-453.
- Moore, J., & Hagedorn, J. (2001). *Female gangs: A focus on Research*. Juvenile Justice Bulletin. Washington, D.C.: US Department of Justice, Office of Justice Programs, OJJDP.
- O'Brien, K., Daffern, M., Chu, C. M., & Thomas, S. D. (2013). Youth gang affiliation, violence, and criminal activities: A review of motivational, risk, and protective factors. *Aggression and Violent Behavior*, 18, 417-425.
- Rizzo, M. (2003). Why do children join gangs? *Journal of Gang Research*, 11(1), 65-75.
- Satterfield, J., Swanson, J., Schell, A., & Lee, F. (1994). Prediction of antisocial behavior in attention-deficit hyperactivity disorder boys from aggression/defiance scores. *Journal of the American Academy of Child & Adolescent Psychiatry*, 33, 185-190.
- Spergel, I. A. (1995). *The youth gang problem: A community approach*. New York: Oxford University Press.
- Sullivan, J. P. (2006). Maras morphing: Revisiting third generation gangs. *Global Crime*, 7, 487-504.
- Sutton, T. E. (2017). The lives of femal gang members: A review of the literature. *Aggression & Violent Behavior*, 37, 142-152.
- Thornberry, T. P., Krohn, M. D., Lizotte, A. J., & Chard-Wierscheem, D. (1993). The role of juvenile gangs in facilitating delinquent behavior. *Journal of Research in Crime & Delinquency*, 30, 55-87.

- Thornberry, T. P., Krohn, M. D., Lizotte, A. J., Smith, C., & Tobin, K. (2003). *Gangs and Delinquency in Developmental Perspective*. Cambridge: Cambridge University Press.
- Webster, C., MacDonald, R., & Simpson, M. (2006). Predicting criminality? Risk factors, neighbourhood influence and desistance. *Youth Justice*, 6, 7-22.
- Weerman, F. M., Lovegrove, P. J., & Thornberry, T. (2015). Gang membership transitions and its consequences: Exploring changes related to joining and leaving gangs in two countries. *European Journal of Criminology*, 12, 70-91.
- Yiu, H. L., & Gottfredson, G. D. (2014). Gang participation. *Crime & Delinquency*, 60, 619-642.
- Yoder, K. A., Whitbeck, L. B., & Hoyt, D. R. (2003). Gang involvement and membership among homeless and runaway youth. *Youth & Society*, 34, 441-467.

Author Biographies

Zenta E. Gomez Auyong is an adjunct professor at Stetson University in DeLand, Florida. Her research interests include life-course criminology, criminological theory, social inequality, gender and crime, and perceptions of justice.

Sven Smith is an assistant professor at Stetson University and attorney in Orlando, Florida. His research interests include sociology of law, sociology of criminal procedure, criminology, statistics, and the sociology of power in national and international context.

Christopher J. Ferguson is a professor at Stetson University in DeLand, Florida. His research interest includes violent criminal behavior, video game, and other media violence effects.