

Article

Youth Gang Members: Psychiatric Disorders and Substance Use

Toi Blakley Harris ^{1,*}, Sara Elkins ², Ashley Butler ³, Matthew Shelton ⁴, Barbara Robles ⁵, Stephanie Kwok ⁶, Sherri Simpson ⁷, Dennis W. Young ⁸, Amy Mayhew ⁹, Ayanna Brown ¹⁰ and Albert John Sargent ¹¹

¹ Menninger Department of Psychiatry & Behavioral Sciences; Department of Pediatrics, Baylor College of Medicine, 1 Baylor Plaza BCM 350, Houston, TX 77030, USA

² Department of Pediatrics, Psychology Section, Baylor College of Medicine; Texas Children's Hospital, 6701 Fannin St., Suite 1630; Houston, TX 77030, USA; E-Mail: srelkins@bcm.edu

³ Department of Pediatrics, Psychology Section, Baylor College of Medicine; 1 Baylor Plaza BCM 320 Houston, TX 77030, USA; E-Mail: ambutler@bcm.edu

⁴ Harris County Juvenile Probation Department, 1200 Congress Houston, TX 77002, USA; E-Mail: matthew.shelton@hcjpd.hctx.net

⁵ Department of Psychiatry, University of Pennsylvania School of Medicine, Office of Education, 3535 Market Street 2nd floor, Philadelphia, PA 19104, USA; E-Mail: barbararobles4@gmail.com

⁶ Menninger Department of Psychiatry & Behavioral Sciences; Baylor College of Medicine, 1 Baylor Plaza BCM 350, Houston, TX 77030, USA; E-Mail: sk143278@bcm.edu

⁷ Private practice, 2786 Spain Drive, East Point, GA 30344, USA; E-Mail: sherri_simpson@hotmail.com

⁸ Missouri City Baptist Church; 16816 Quail Park Dr. Missouri City, TX 77489, USA; mcbbt@sbcglobal.net.

⁹ Cambridge Health Alliance Psychiatry, Harvard Medical School, 637 Washington Street, Dorchester, MA 02124, USA; E-Mail: amymmayhew@gmail.com

¹⁰ Kingwood Psychiatry, 19701 Kingwood Drive Suite 3, Kingwood, TX 77339, USA; E-Mail: msbrown98@aol.com

¹¹ Department of Psychiatry, Tufts University School of Medicine, Tufts Medical Center, 800 Washington Street, Boston, MA 02111, USA; E-Mail: jsargent@tuftsmedicalcenter.org

* Author to whom correspondence should be addressed; E-Mail: toih@bcm.edu.

Received: 15 August 2013; in revised form: 22 September 2013 / Accepted: 9 October 2013 / Published: 15 October 2013

Abstract: Objective: Approximately 260,000 of youth in the United States are gang-affiliated. There is a paucity of data available to identify the prevalence of mental health disorders in this population. Gang members share many of the features of “at risk” or juvenile justice involved youth who deny gang membership. The authors identified rates of psychiatric disorders within a juvenile justice population delineated in three categories: gang members, friends of gang members, and non-gang members. **Methods:** A retrospective review of records obtained by a juvenile probation department. A large detention center conducted mental health screenings on 7,615 youth aged 13–17. The mental health screenings were performed by either a master level or doctoral level mental health professional. Odds ratios were computed as an effect size for gender, race/ethnic differences, and gang-membership associations with self-reported psychiatric and substance use disorders. Logistic regression was used to evaluate the risk for psychiatric and substance use disorders among gang-members and friends of gang members. Diagnostic information was generated through a clinical interview and flexible battery. **Results:** Of the 7,615 youth in this study, ~50% had contact with gangs; 11% were self-identified gang-members, and 38% acknowledged having at least one friendship with a gang member. Similar to other studies, being male was a risk-factor for gang-membership (2.31 odds). In this multi-racial and ethnic study, Latinos had a greater affiliation with gang membership and association with gang members as friends (1.44 odds). Gang members were found to have increased rates of post-traumatic stress disorder (1.77 odds), current substance abuse (2.58 odds), oppositional defiant disorder, (1.24 odds) and conduct disorder (4.05 odds); however, they were less likely to have an adjustment disorder than non-gang members (0.70 odds). **Conclusions:** Juveniles who received a mental health assessment in this study were found to have differences in rates of psychiatric disorders and substance use based upon gang-affiliation or association. Current data is limited and inconsistent in the delineation of individual, family, peer, school and community characteristics specific to gang members. These differences warrant further investigation for intervention and treatment.

Keywords: youth gang; mental health; substance use

1. Introduction

In the United States, there are an estimated 29,000 gangs and nearly 750,000 members; 260,000 of those are adolescents. Adolescents make up 30–40% of these members highlighting that many members continue involvement into adulthood. 46% of members are Hispanic or Latino, 35% Black or African Americans, 11% White and the remaining 7% are of mixed races/ethnicities [1]. In communities where gang activity is new, more members are White [2]. Nearly 10% of gang members are female. [1]

Gang involvement, gang proliferation and gang violence have become common features of 21st Century America. [3] Yet, the mental health literature is sparse with respect to evidenced-based

interventions to prevent gang entry or to effectively provide mental health care for this patient population [4,5]. There are few articles about gang involvement in the mental health literature [6–8]. The complexity of youth gang members' psychological well-being and cognitive capabilities are unappreciated by our field. This is especially true when comparing the mental health of gang *versus* non-gang members who have been detained for suspected criminal acts.

There are approximately 100,000 adolescents detained in the criminal justice system in the United States. Gang members share many of the features of “at risk” or juvenile justice involved youth who deny gang membership [9,10]. Current data is limited and inconsistent in the delineation of individual, family, peer, school and community characteristics specific to gang members [8,11,12]. These youth have been characterized as frequently poor, with poor academic involvement and performance. They have been described as having an early onset of substance use, having an affiliation with aggressive peers in early adolescence, and inconsistently residing in disadvantaged communities.

Alleyne and Wood (2010) reviewed previous research examining the contributions of psychological processes predisposing an individual to either join or exit a gang [13]. Researchers have posited when there is a lack of environmental prosocial supports (*i.e.*, home, school, and community), risk factors such as low self-esteem, impulsivity, risk-seeking and the use of cognitive strategies that justify and rationalize harmful behaviors towards others predispose youth to illegal activity and gang involvement. Their research findings supported previous work and found cognitive differences were found with respect to assigning ‘blame’ for criminal acts. Youth who were either peripherally involved with gangs or gang members were more likely to blame either superiors (peripheral) or victims (gang member) for the crime in comparison to the non-gang member. Youth gang members as a whole displayed a greater level of anti-authority than either peripheral youth or non-gang members.

Gang-affiliated youth are often outside the bounds of the traditional mental health services and have particular needs. Because of the increased risk to exposure to violence, these youth have increased rates of post-traumatic stress disorder symptoms [8,11,12]. There are high levels of mental health disorders within the juvenile detention population as a whole, estimated to affect between 40–70%, including psychotic disorders, mood disorders, attention deficit hyperactivity disorder, disruptive behavior disorders, and substance use disorders [9]. In the last few decades, researchers have taken a systematic look at the connection of these youth with the mental health care system and treatment of these conditions. The prevalence of psychiatric disorders in detained youth is greater in comparison to the counterparts in the community (60–70% *versus* 20–25%) [14,15]. Youth who are detained have increased rates of psychiatric co-morbidity; ethnic and gender differences have been identified [14]. Coid *et al.* (2013) conducted a recent study in the United Kingdom and identified differences in the prevalence of mental health disorders and service utilization among young adult gang members, violent men, and non-violent men. They identified higher rates of psychosis, anxiety, antisocial personality disorder, suicide attempts, alcohol dependence, and drug dependence in young adult gang members in comparison to violent and non-violent men; however, both gang members and violent men had a lower prevalence of depression. In addition, both gang members and violent men utilized mental health care services at greater rates than non-violent men [7].

The aim of this study was to compare the rates of psychiatric disorders in youth gang members, friends of gang members, and non-gang members and to identify any demographic trends in these

populations. The authors hypothesized there would be increased rates of psychiatric disorders in gang members *versus* non-gang members.

2. Methods

The Institutional Review Boards at Baylor College of Medicine and the Harris County Probation Department (HCJPD) both approved this retrospective study. For the purpose of this study, the files from all Harris County Juvenile Detention mental health screenings were reviewed for individual information: age, ethnicity, languages spoken, medical history and psychiatric history and for pre-determined variables to ascertain current/prior gang membership and or affiliation. To ensure patient privacy and for analytical purposes, the senior psychologist at HCJPD assigned an identification number to the file of each who received a mental health screening or assessment. The data from each file were entered and compiled into a computerized database in a coded format.

Between 2007–2011, all juveniles less than 18 years of age ($n = 7,615$) who were detained within the Harris County Probation Department Center for more than 24 hours received a mental health screening. Additionally, juveniles who were detained less than 24 hours but received a mental health referral or testing request also received a mental health screening. The mental health screenings were conducted by either a master or a doctoral level clinician. Each juvenile's mental health screening and diagnostic conclusions were generated primarily from the clinical interview, and a review of available medical records. This current study focuses on those participants who screened positive for current and previous substance use, and met criteria for post-traumatic stress disorder, conduct disorder, oppositional defiant disorder and adjustment disorder. During the assessment, the clinician also inquired about each juvenile's youth gang affiliation. They were asked which of the following three categories best described their gang affiliation: gang member, friend of gang members, or non-gang member.

Investigators entered data into a relational database file that was password protected and located on a secure computer in the psychiatry division of Baylor College of Medicine. The researchers maintained data integrity by restricting allowable input values on a standardized entry form. The investigators calculated descriptive statistics for demographic, and clinical or examination findings from structured interviews. All dependent and independent variables were dichotomized (e.g., 0 = no gang membership, 1 = gang membership) and odds ratios were computed as an effect size of predicted associations. Logistic regression was used to evaluate the risk for psychiatric and substance use disorders among gang-members and friends of gang members. Dummy codes were used to create ethnic categories that were compared to the White reference group. To investigate variation of gang membership across gender and ethnic/racial groups, interaction terms crossing ethnicity/race by gender were added to the main effects logistic model.

3. Results

3.1. Descriptive Statistics

There were 6264 males and 1351 females including in analyses. Of those, 833 endorsed gang membership (11%), while 2911 endorsed having at least one friendship with a gang member (38%).

Descriptive statistics for demographic variables, gang membership, and mental health diagnoses are presented in Table 1.

Table 1. Descriptive Statistics for Study Variables.

	Variable	Frequency (%)
1	Gender	6264 (82.3%)
2	Asian	38 (0.5%)
3	Black	3309 (43.4%)
4	Latino	2237 (29.4%)
5	White	2013 (26.4%)
6	Gang Members	833 (10.9%)
7	Friends of Gang Members	2911 (38.7%)
8	PTSD	278 (3.6%)
9	Adjustment Disorder	2100 (27.6%)
10	Substance Abuse (Current)	4602 (60.4%)
11	Substance Abuse (Past)	1192 (15.6%)
12	ODD	2168 (28.5%)
13	CD	490 (6.4%)

* $p < 0.05$; ** $p < 0.01$.

The authors evaluated the extent to which gang membership was associated with reported mental health diagnosis (see Table 2). Consistent with our hypothesis, results demonstrated that gang membership was associated with 1.77 greater odds of having a diagnosis of post-traumatic stress disorder (PTSD), 2.58 greater odds of a current diagnosis of substance abuse, 1.24 greater odds of a diagnosis of oppositional defiant disorder (ODD), and 4.05 greater odds of conduct disorder (CD). In contrast, gang members were less likely to have a diagnosis of adjustment disorder (OR = 0.70) than non-gang members. There was no difference between gang members and non-members on rates of past substance abuse.

Table 2. Associations Between Gang Membership and Mental Health Diagnosis.

	Diagnosis	β	SE	OR
Gang Members	PTSD	0.57 **	0.16	1.77
	Adjustment Disorder	-0.36 **	0.09	0.70
	Substance Abuse (Current)	0.95 **	0.09	2.58
	Substance Abuse (Past)	0.09	0.10	1.09
	ODD	0.22 *	0.08	1.24
	CD	1.40 **	0.11	4.05
	Friends of Gang Members	PTSD	0.18	0.13
Adjustment Disorder		-0.26 **	0.05	0.77
Substance Abuse (Current)		0.81	0.05	2.24
Substance Abuse (Past)		-0.04	0.07	0.97
ODD		0.27**	0.05	1.31
CD		0.94**	0.10	2.57

* $p < 0.01$; ** $p < 0.001$.

Individuals who identified at least one friendship with a gang member were also at increased odds of having a current diagnosis of substance abuse (2.24), ODD (1.31), and CD (2.57) compared to non-gang members. Conversely, friendship with a gang member was associated with lower rates of adjustment disorder (OR = 0.77) compared to non-gang members. There were no differences between friends of gang members and non-members on rates of PTSD or past substance abuse.

3.2. Associations between Gender and Ethnicity and Gang Membership

The authors also examined the gender and ethnic differences among gang members, friends of gang members, and non-gang members (Table 3). Results indicated that males had 2.31 greater odds of gang membership and 1.48 greater odds of friendship with a gang member than females. The odds of gang membership were significantly greater among Black (OR = 1.45) and Latino participants (OR = 1.89) as compared to White participants. The odds of having a friend in a gang were significantly greater among Latino participants (OR = 1.44) as compared to White participants. Two-way interaction effects were evaluated between gender and the four ethnic groups. Tests revealed no significant interaction effects among gender and ethnicity on gang-membership or gang friendships.

Table 3. Associations Between Gender, Ethnicity and Gang Membership.

Variable		Gang Members		
		β	SE	OR
Main Effect	Gender ^a	0.837 **	0.12	2.31
	Asian ^b	0.00	0.61	1.00
	Black ^b	0.37 **	0.10	1.45
	Latino ^b	0.64 **	0.10	1.89
Interaction Effect	Gender x Asian	18.13	13400	7.48×10^7
	Gender x Black	-0.33	0.32	0.72
	Gender x Latino	0.21	0.37	1.32
Variable		Friends of Gang Members		
		β	SE	OR
Main Effect	Gender ^a	0.39 **	0.06	1.48
	Asian ^b	0.15	0.34	1.16
	Black ^b	0.01	0.06	1.01
	Latino ^b	0.37**	0.06	1.44
Interaction Effect	Gender x Asian	-0.47	0.78	0.63
	Gender x Black	0.27	0.15	1.32
	Gender x Latino	0.23	0.17	1.26

^a OR greater than 1.00 for gender indicate stronger effects for men than women; ^b Statistics for a specific race are compared against a White reference group. * $p < 0.01$. ** $p < 0.001$.

4. Conclusions

Our study's primary aim was to compare rates of psychiatric disorders and substance use in youth gang members, friends of gang members, and non-gang members. Similar to research conducted to identify the prevalence of psychiatric disorders in juveniles who are detained and in adult gang members, gang members in our study had higher rates of post-traumatic stress symptoms, current

substance use, oppositional defiant disorder and conduct disorder. In our study, friends of gang members had similar increased rates of psychiatric disorders and substance use as gang members. Both gang members and friends of gang members had lower rates of adjustment problems; however, friends of gang members had lower rates than gang members. These findings will need further examination but could have occurred because they met criteria for more severe and persisting disorders.

Another aim of this study was to evaluate for gender and racial/ethnic trends in gang membership. The demographic patterns of youth gang members have varied over time and are reflective of the community's racial and ethnic composition [8,13]. Males from Irish descent in prior decades participated in youth gang activity at rates higher than other groups in the United States [8,16]. However, in more recent decades, males from Latino and African American communities have participated in gang activity in higher levels in comparison to their White and Asian peers [1,8,17]. Consistent with more recent findings, in the current study, males were found to have higher rates of gang membership, and Latinos endorsed increased rates of gang membership and gang association in comparison to other ethnic groups.

Our study was limited by the lack of collateral reports and standardized evaluation methods (*i.e.*, DISC-computerized diagnostic interview schedule for children) to confirm psychiatric diagnoses. While our study population was diverse, these were juveniles from one location in an urban area and may not be easily to generalize when considering other geographical areas.

This study is an important step in better appreciating the mental health of adolescent gang members. Although previous studies have identified the prevalence rates of youth who are detained, there remains limited data to assist with understanding any unique mental health needs of youth who are gang-affiliated including their prior histories and ongoing risk for trauma exposure. There is also a need for health and mental health professionals to be informed of evidenced-based interventions to either prevent or reduce gang-activity in youth, as well as established hospital protocols for the clinical management of youth who are gang-affiliated during hospitalization and in outpatient treatment settings [18,19]. Strategies for health and mental health care providers to engage at-risk youth, families, and communities are essential in order to effectively provide informed health care and pro-social and viable alternatives to gang-activity. Future studies are warranted to continue efforts to examine individual, family, community and cultural risk and protective factors to best serve this population.

Acknowledgements

The authors wish to express their appreciation to the Harris County Juvenile Probation Department (HCJPD) and detainees.

Conflicts of Interest

The authors declare no conflict of interest.

References

1. National Youth Gang Center. "National Youth Gang Survey Analysis." Available online: <http://www.nationalgangcenter.gov/Survey-Analysis> (accessed on 15 April 2013).

2. Egley, Arlen, Jr., and Christina E. Ritz. "Highlights of the 2004 National Youth Gang Survey." Fact Sheet #2006–01. Washington: U.S. Department of Justice, Office of Juvenile Justice and Delinquency Prevention, 2006.
3. Lyddane, Donald. "Understanding Gangs and Gang Mentality: Acquiring Evidence of the Gang Conspiracy." *The United States Attorney Bulletin on Gang Prosecutions* 54 (2006): 1–15. http://www.justice.gov/usao/eousa/foia_reading_room/usab5403.pdf.
4. Kearney, Edmund M. "Ethical Dilemmas in the Treatment of Adolescent Gang Members." *Ethics and Behavior* 8 (1998): 49–57.
5. Fisher, Herrick, Frances Gardner, and Paul Montgomery. "Cognitive-behavioral Interventions for Preventing Youth Gang Involvement for Children and Young People (7–16)." *Cochrane Database of Systematic Reviews* (2008): doi: 10.1002/14651858.CD007008.pub2.
6. Alleyne, Emma, and Jane L. Wood. "Gang Involvement: Psychological and Behavioral Characteristics of Gang Members, Peripheral Youth, and Non-gang Youth." *Aggressive Behavior* 36 (2010): 423–36.
7. Coid, Jeremy W., Simone Ullrich, Robert Keers, Paul Bebbington, Bianca L. Destavola, Constantinos Kallis, Min Yang, David Reiss, Rachel Jenkins, and Peter Donnelly. "Gang Membership, Violence, and Psychiatric Morbidity." *American Journal of Psychiatry* (2013): 985–93. doi: 10.1176/appi.ajp.2013.12091188.
8. Lahey, Benjamin B., Rachel A. Gordon, Rolf Loeber, Magda Stouthamer-Loeber, and David P. Farrington. "Boys Who Join Gangs: A Prospective Study of Predictors of First Gang Entry." *Journal of Abnormal Child Psychology* 27 (1997): 261–76.
9. Fazel, Seena, Helen Doll, and Niklas Langstrom. "Mental Disorders among Adolescents in Juvenile Detention and Correctional Facilities: A Systematic Review and Metaregression Analysis of 25 Surveys." *Journal of the American Academy of Child and Adolescent Psychiatry* 47 (2008): 1010–19.
10. Hill, Karl G., Christina Lui, and J. David Hawkins. "Early Precursors of Gang Membership: A Study of Seattle Youth." *Juvenile Justice Bulletin* (2001): 1–5. <https://www.ncjrs.gov/pdffiles1/ojjdp/190106.pdf>.
11. Hagedorn, John M. *A World of Gangs: Armed Young Men and Gangsta Culture*. Minneapolis: University of Minnesota Press, 2008.
12. Thomas, Christopher R. Serious Delinquency and Gang Membership. *Psychiatric Times*, April 2005, XXII(4). www.psychiatristimes.com.
13. Alleyne, Emma, and Jane L. Wood. "Gang Involvement: Psychological and Behavioral Characteristics of Gang Members, Peripheral Youth, and Non-gang Youth." *Aggressive Behavior* 36 (2010): 423–36.
14. Teplin, Linda A., Karen M. Abram, Gary M. McClelland, Mina K. Dulcan, and Amy A. Mericle. "Psychiatric Disorders in Youth in Juvenile Detention." *Archives of General Psychiatry* 59 (2002): 133–43.
15. Merikangas, Kathleen Ries, Jian-ping He, Marcy Burstein, Sonja A. Swanson, Shelli Avenevoli, Lihong Cui, Corina Benjet, Katholiki Georgiades, and Joel Swendsen. "Lifetime Prevalence of Mental Disorders in US Adolescents: Results from the National Comorbidity Study-Adolescent

Supplement (NCS-A).” *Journal of the American Academy of Child and Adolescent Psychiatry* 49 (2010): 980–89.

16. Haskins, James. *Street Gangs: Yesterday and Today*. Wayne: Hastings Books, 1974.
17. Valdez, Avelardo, Charles D. Kaplan, and Alice Cepeda. “The Drugs-Violence Nexus among Mexican-American Gang Members.” *Journal of Psychoactive Drugs* 38 (2006): 109–21.
18. Bowers, Larry G. “Does Your Hospital Have A Procedure For Recognizing And Responding to Gang Behavior?” *Journal of Healthcare Protection Management* 24 (2008): 80–83.
19. Sanders, Bill, Janet U. Schneiderman, Alisha Loken, Stephen E. Lankenau, and Jennifer Jackson Bloom. “Gang Youth as a Vulnerable Population for Nursing Intervention.” *Public Health Nursing* 26 (2009): 346–52.

© 2013 by the authors; licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution license (<http://creativecommons.org/licenses/by/3.0/>).