

Kent Academic Repository

Full text document (pdf)

Citation for published version

Wood, Jane L. and Kallis, Constantinos and Coid, Jeremy (2017) Differentiating gang members, gang affiliates and violent men on their psychiatric morbidity and traumatic experiences. *Psychiatry: Interpersonal and Biological Processes*, 80 (3). pp. 221-235. ISSN 0033-2747.

DOI

<https://doi.org/10.1080/00332747.2016.1256144>

Link to record in KAR

<http://kar.kent.ac.uk/58330/>

Document Version

Author's Accepted Manuscript

Copyright & reuse

Content in the Kent Academic Repository is made available for research purposes. Unless otherwise stated all content is protected by copyright and in the absence of an open licence (eg Creative Commons), permissions for further reuse of content should be sought from the publisher, author or other copyright holder.

Versions of research

The version in the Kent Academic Repository may differ from the final published version.

Users are advised to check <http://kar.kent.ac.uk> for the status of the paper. **Users should always cite the published version of record.**

Enquiries

For any further enquiries regarding the licence status of this document, please contact:

researchsupport@kent.ac.uk

If you believe this document infringes copyright then please contact the KAR admin team with the take-down information provided at <http://kar.kent.ac.uk/contact.html>

Differentiating gang members, gang affiliates and violent men on their psychiatric morbidity and traumatic experiences.

Jane L Wood¹,

Constantinos Kallis²,

And

Jeremy W. Coid³

Corresponding author: Email: j.l.wood@kent.ac.uk

1. Jane Wood BSc., MSc., PhD., is a Chartered Forensic Psychologist, Centre of Research and Education in Forensic Psychology (CORE-FP), School of Psychology, University of Kent, Canterbury, Kent, CT2 7NP, United Kingdom.

2. Constantinos Kallis, BSc., MSc., PhD., is a Senior Lecturer in Medical Statistics, Centre for Psychiatry, Queen Mary University of London. Wolfson Institute of Preventive Medicine Barts and The London School of Medicine and Dentistry Charterhouse Square, London EC1M 6BQ, United Kingdom.

3. Jeremy Coid, MB ChB, MD (Lond), FRCPsych, M. Phil. Dip. Criminol., is a Professor of Forensic Psychiatry, Centre for Psychiatry, Queen Mary, University of London. Wolfson Institute of Preventive Medicine, Barts and The London School of Medicine and Dentistry, Charterhouse Square, London EC1M 6BQ

Abstract

Objective: Little is known about the differences between gang members and gang affiliates; individuals who associate with gangs, but who are not gang members. Even less is known about how these groups compare with other violent populations. This study, examined how gang members, gang affiliates, and violent men, compare on mental health symptoms and traumatic experiences. Method: Data included a sample of 1,539 adult males, aged 19-34 years, taken from an earlier survey conducted in the UK. Participants provided informed consent before completing questionnaires, and were paid £5 for participation. Logistic regression analyses were conducted to compare participants' symptoms of psychiatric morbidity and traumatic event exposure. Results: Findings showed that, compared to violent men and gang affiliates, gang members had experienced more severe violence, sexual assaults, and suffered more serious/life threatening injuries. Compared to violent men, gang members and gang affiliates had made more suicide attempts, had self-harmed more frequently, and had experienced more domestic violence, violence at work, homelessness, stalking, and bankruptcy. Findings further showed a decreasing gradient from gang members, to gang affiliates, to violent men, in symptom levels of: anxiety, anti-social personality disorder, pathological gambling, stalking others, and drug and/or alcohol dependence. Depression symptoms were similar across groups. Conclusions: The identified relationship between gang membership, affiliation and adverse mental health, indicates that mental health in gang membership deserves more research attention. Findings also indicate that criminal justice strategies need to consider gang members' mental health more fully, if gang membership is to be appropriately addressed and reduced.

Keywords: Gangs, affiliates, violent, psychiatric, trauma

Gangs are defined by their links to violence (Decker, 2007), and gang membership enhances individual members' criminal activity to levels that exceed those of either pre- or post-membership, even in prolific offenders (Weerman, Maxson, Esbensen, Aldridge & van Gemert, 2009). So far, most gang research has concentrated on risk factors for joining a gang (Pyrooz, Decker & Webb, 2014), by comparing gang to non-gang youth (Pyrooz, Sweeten & Piquero, 2013), and scant attention has focused on differences between levels of gang membership. However, not all gang members are equally committed to a gang (Pyrooz et al., 2013; Wood & Alleyne, 2010). Some are committed gang members, whereas others (hereafter referred to as affiliates) have loose and transient associations with a gang (Esbensen, Huizinga & Weiher, 1993; Klein, 1971). Whilst gang members often admit their membership, affiliates frequently deny that they are gang members – even when admitting involvement in gang violence and criminal activity (Yablonsky, 1959). Since commitment to a gang varies, it is possible that gang members and affiliates differ in their characteristics. Yet, so far little is known about these potential differences (O'Brien, Daffern, Chu & Thomas, 2013), particularly regarding mental health symptoms (Coid et al., 2013). Using previously unpublished data, collected in the Coid et al, (2013) survey, this study compared the psychiatric morbidity and trauma of gang members, affiliates, and violent men.

As yet, little is known about how gang members and affiliates compare to each other, or to violent others. We know that they are thought to be similar in their criminal activity as gang researchers note that, "It is not necessary for an individual to self-report gang membership to experience the delinquency- enhancing effects of gang membership." (Curry, Decker & Egle, 2002, p. 289). However, since affiliates connect only loosely to gangs, it is possible that their characteristics resemble those of violent men, more than they do gang members'.

A debate about how ‘normal’ gang members are, and varying accounts of emotionally disturbed and antisocial personality disordered gang members, have created some confusion in the gang literature. Some authors maintain that most gang members require no psychiatric intervention, since gangs shun individuals with high psychiatric morbidity, because their unpredictability attracts unwanted attention from authorities (Klein, 1995; Short 1996; Densley, 2013). Others argue that gang members are highly personality disordered, affiliates less so, and non-gang individuals least of all (Yablonsky, 1959; 1997). Although Klein and Maxson (2006) argue that gang members are more personality disordered than affiliates, Valdez, Kaplan & Codina’s (2000) examination of psychopathy showed that only two of 50 gang members merited a psychopathic classification, and two thirds had normal-range scores (although the authors maintain that the remaining 44% warranted further assessment). Valdez and colleagues argue that, whilst gang members lacked empathy, their violence seemed to emerge from an interaction between emotional disturbance and behavioral factors, rather than from psychopathic personalities. Valdez et al., also found no evidence that gangs shun psychopathic members; instead, they tolerated higher levels of personality disorder than some authors (e.g. Short, 1997) propose.

Examinations of gang members’ mental health are rare, but a large cross-sectional survey of 4,664 adult men in the U.K. identified that gang members had exceptionally high prevalence of psychiatric morbidity, and associated health service use (Coid et al., 2013). Coid and colleagues’ findings also showed a clear gradient, where psychiatric morbidity and health service use, progressed from infrequent among non-violent men, to more frequent among violent men, to most frequent among gang members: affiliates were not included in their analyses. When compared to nonviolent men, gang members had higher scores on all measures of psychiatric morbidity (e.g. psychosis, anxiety, drug and alcohol dependence, and attempted suicide); only on depression did gang members have

lower scores. Gang members were also more anti-social personality disordered (ASPD), and more likely to: use violence when disrespected, experience hostile ruminations, be violently victimized, and be fearful of violent victimization. The same pattern of findings differentiated gang members from violent men. That is, gang members scored higher on measures of ASPD, drug and alcohol dependence, and were more likely to report suicide attempts. Again, they were less likely to report suffering from depression.

Whilst the Coid et al., study offers insight into gang members' psychiatric and behavioral characteristics, it fails to show where affiliates belong on the identified gradient. This is important, because if affiliates differ from gang members and violent men, then this could have implications for developing gang prevention and intervention strategies. A further omission in the Coid et al., study is trauma. Although the authors included participants' experiences as violence victims, they omit measures of other traumatic experiences, which may also link to psychiatric morbidity. The current study addresses these omissions, by comparing gang members', affiliates', and violent men's psychiatric morbidity, and traumatic experiences (e.g. family deaths, being victims of sexual assault). Age, ethnicity, and social class were assessed to identify demographic differences, and to control for in analyses. It was expected that, because they associate with gangs, affiliates' levels of psychiatric morbidity, and their traumatic experiences, would be higher than violent men's, but lower than gang members'. An exception to this expectation was depression. Since findings show that, compared to gang members, violent men have higher symptoms of depression, we expected affiliates would have higher levels of depression than gang members, but lower levels than violent men.

Method

Participants

Data was taken from the Men's Health survey, conducted in 2011 with more than 4000 men. From this survey, Coid et al., (2013) identified men as non-violent, violent, and gang members. For the current study, original data was screened to exclude non-violent men (i.e. those not involved in any violence during the past five years, $n = 3,285$), and to include gang affiliates, who were not included in the Coid et al., (2013) study. Consequently, the current study was based on 1,539 adult British males (M age = 19.83 years, age range: 19-30 years) who were identified as violent men ($n = 1312$), gang members ($n = 108$), or gang affiliates ($n = 119$).

Within the original survey, participants were recruited via random location sampling, an advanced form of quota sampling, known to reduce biases associated with interviewer selection of sample location. Another advantage of this sampling method is that it is based on the national census, and so participants are identified and included according to their frequency in the population. This method therefore helps to boost the representation of individuals (e.g. working class males), who are often reluctant to participate in research. In line with this methodology, sampling units were randomly selected from regions in proportion to their population, and so they provided a representative sample from England, Scotland, and Wales. Boost surveys further selected black and ethnic minority men from areas with a minimum of 5% black and minority ethnic residents, and men from areas noted for high gang membership (Hackney, London and Glasgow East, Scotland).

Materials and Procedure

A self-administered questionnaire, piloted previously, was adapted for the original men's health survey. Participants were contacted in person by interviewers, and, if happy to participate, they provided informed consent, completed the questionnaire in private, and returned it to the interviewer. All participants were paid £5 for taking part in the survey, and

all questionnaires were anonymized. The questionnaire comprised several established measures: The Psychosis Screening Questionnaire (Bebbington & Nayan, 1995), screened for psychosis, and if participants met three or more criteria, this was deemed a positive screening. Antisocial personality disorder was identified using questions from the Structured Clinical Interview for DSM-IV Personality Disorders Screening Questionnaire (Ullrich et al., 2008). The Hospital Anxiety and Depression Scale (Zigmond & Snaith, 1983), identified anxiety and depression based on scores of ≥ 11 in the past week; scores of ≥ 20 on the Alcohol Use Disorders Identification Test (Babor, et al., 2001), and scores of ≥ 25 on the Drug Use Disorders Identification Test (Berman, et al., 2005), identified alcohol or drug dependence, respectively. Participants were also asked whether they had ever attempted suicide, or self-harmed. To screen for behaviors relevant to psychiatric morbidity, algorithms, based on the DSM IV approach to dependence syndromes, were created to assess symptom levels of pathological gambling and pornography addiction. Symptom levels of pathological gambling were assessed using 10 items (agreement with 5 indicated pathological symptom levels), and included, for example, Are you preoccupied with gambling (thinking a lot about past gambling experiences, planning next time, or thinking how to get money to gamble)? and, Are you restless or irritable when attempting to cut down or stop gambling? A further 16 items assessed symptom levels of pornography addiction (agreement with 6 indicated pornography addiction symptom levels). Items included, for example, I have missed work, or looked at porn instead of working. and, I have given up spending time with family and friends because of porn. Pathological responses to rejection by others (e.g. stalking behavior) were also examined. These were assessed by eight items which assessed the frequency with which participants had, for example, followed the other around, threatened them, turned up at their home or work without permission, or threatened to hurt themselves, if the other would not have contact with them.

Demographic measures included: age, ethnicity, marital status, number of, and contact with, their children, employment status, living status, and whether, as a child, they had ever been taken into Local Authority Care, such as a children's home, or foster care. To assess traumatic experiences, participants were asked if, since the age of 16, they had personally experienced problems, or events, such as: domestic violence from a partner, violence at work, sexual assaults, being stalked, injuries from physical attacks, serious/life threatening injuries, death of a partner or child, serious financial problems and/or bankruptcy, homelessness, and being sacked or made redundant.

Participants were classified into one of three groups: **1.** Gang members (i.e., agreed that they belonged to a gang, had been involved in violence, criminal activities or gang fights during the past five years), **2.** Gang affiliates, (i.e., did not claim gang membership, but had been involved with a gang in violence and/or criminal activities during the past five years), **3.** Violent men (i.e., admitted being violent over the past five years, but did not claim gang membership, or any involvement in gang-related fights).

Ethics

The research was carried out in accordance with the latest version of the Declaration of Helsinki. The research design was reviewed and approved by The Queen Mary, University of London, Research Ethics Committee. In accordance with the Declaration of Helsinki, and the APA ethical code of conduct, participants were fully informed of the aims of the study, and given the opportunity to ask questions, before agreeing to participate. Consent to participate was obtained following a full explanation of the confidential nature of the procedures and to preserve confidentiality, participants' responses were anonymized.

Results

Data Preparation and Statistical Analyses

The weighted sample of 1539 participants consisted of 633 (41.1%) from the main survey; 199 (13.0%) from the ethnic minority sample; 224 (14.6%) from the lower social class sample; 193 (12.5%) from Hackney (London) and 290 (18.8%) from Glasgow East (Scotland). Of the 1539 participants, 1312 (85.3%) reported involvement in fights, or assaulting others in the past 5 years, but not as part of a gang (violent men); 108 (7%) reported current gang membership (gang members), and 119 (7.7%) reported involvement with gangs in fights but claimed no gang membership (affiliates).

Demographics were compared using multinomial logistic regressions to identify potential confounds. Three analyses were performed simultaneously: comparing gang members with affiliates; affiliates with violent men; and gang members with violent men. Pairwise differences were established using logistic regression analyses.

To control for sample differences, survey type was included as a covariate in all analyses, and robust standard errors were used to account for correlations within survey areas, due to clustering within postcodes. An alpha level of 0.05 was used throughout.

Compared to violent men, affiliates were younger, and more likely to be: single, black, and to have been in local authority care during childhood. Compared to gang members, affiliates were less likely to be black or Asian, but more likely to be single and born outside the UK. Table 1 shows each group according to their demographics.

INSERT TABLE 1 HERE

In the next step we compared each group on their symptom levels of psychopathology. Table 2 shows the numbers and percentages of violent men's, affiliates', and gang members' symptom levels of psychopathology.

INSERT TABLE 2 HERE

After adjustment, pairwise analyses showed that, compared to violent men, affiliates scored significantly higher on symptoms of all forms of psychopathology except psychosis, and depression. (see Table 3). Comparisons between gang members and affiliates, showed that gang members had significantly higher levels of psychosis, anxiety, pathological gambling, ASPD, drug dependence, alcohol dependence, and stalking of others.

INSERT TABLE 3 HERE

Next, we examined groups according to their experience of traumatic events since the age of 16. Table 4 shows the numbers and percentages of participants' experiences.

INSERT TABLE 4 HERE

After adjustment, pairwise analyses showed that compared to violent men, affiliates reported experiencing more traumatic events, since age 16 (see Table 5). Affiliates experienced higher levels of: injuries from physical attacks, violence at work, and domestic victimization by partners. They were also more likely to report being stalked, to have been homeless, or to have been declared bankrupt.

Compared to gang members, affiliates were significantly more likely to report being injured from physical attacks, but they were less likely to have suffered serious, or life threatening, injuries, to have been sexually assaulted, or to have experienced serious money problems (see Table 5). On all other variables, affiliates and gang members did not differ.

INSERT TABLE 5 HERE

Discussion

The primary aim of this study was to compare the symptom levels of psychiatric morbidity, and the traumatic experiences of violent men, gang members, and gang affiliates. We expected that affiliates' symptom levels of psychiatric morbidity, and their traumatic experiences, would be higher than violent men's, but lower than gang members.' These expectations were mostly upheld: affiliates scored higher than violent men on almost all symptom measures; but, differences between gang members and affiliates were fewer than anticipated.

Compared to violent men, affiliates were younger, more likely to be single, and more likely to be black. Compared to gang members, affiliates were less likely to be black or Asian, more likely to be single, and more likely to have been born outside the UK. Since affiliates are often considered to be 'wannabes' with aspirations to become gang members, it is possible that, for some, a lack of demographic similarity to gang members, prevents them being accepted into full gang membership. Unlike gangs in the USA, UK gangs are noted to form according to their region of origin, rather than their race (Mares, 2001; Wood, 2006), and so it could be that it is affiliates' non-UK origin, and not their race, that excludes them from gang membership. However, this explanation would only apply to a very small number of affiliates (see Table 1), and reasons why other affiliates do not become gang members is not clear. It is possible that many affiliates are opportunists, rather than individuals aspiring to gang membership, and affiliate with gangs solely to maximize personal gain (see Wood, Alleyne, Mozova & James, 2013). It is interesting that affiliates, and gang members, were equally more likely than violent men, to have been in the care of Local Authorities during childhood. Although this was not taken as a measure of trauma in the current study, it suggests that gang members and affiliates, had less stable childhoods than did violent men.

Our findings show a decreasing pattern of psychiatric morbidity from gang members (highest scores on all measures), to affiliates (higher than violent men on all measures except psychosis), to violent men. That gang members had higher levels of ASPD than affiliates, supports earlier propositions that gang members are more personality disordered than affiliates (Klein & Maxson, 2006; Yablonsky, 1959), and contradicts counter arguments (e.g. Valdez et al., 2000). Although affiliates were more anxious than violent men, they were less anxious than gang members. This may be because, as previous findings show, gang members are disproportionately targeted as victims of violence (Katz et al., 2011), and, compared to non-gang members, suffer more sexual assaults, and more serious injuries from fighting (Taylor et al., 2008). Then again, since youth often join gangs for protection, and to cope with negative emotions (e.g. anger, frustration & anxiety, Klemp-North, 2007), it may be that individuals with elevated anxiety, are those who are most inclined to join gangs. Nonetheless, that gang members' anxiety symptom levels are higher than affiliates, seems to suggest that being a gang member increases symptoms of anxiety since if it did not, then we could expect affiliates' symptom levels to be similar to gang members'. Joining a gang may mean that members become better known, and that their more visible 'gang profile' makes them targets for rivals, which, in turn, increases their anxiety.

Compared to violent men, gang members and affiliates (who did not differ from each other) reported more suicide attempts, and self-harming. A potential explanation for this could be that their symptom levels of psychiatric morbidity promote feelings of despair. It is odd, however, that despite their suicide attempts, and their self-harming, neither gang members nor affiliates, were more depressed than violent men. This may be because, although being a gang member, or an affiliate, creates anxiety-provoking concerns about, for example, the risk of violent victimization, being a member, or an associate of a gang, provides a sense of belonging, and emotional bonding, with peers (Goldstein, 1991). This

may then offset depression. Meta-analytic findings show how peer groups provide excellent buffers against depressive symptoms (Pfeiffer, Heisler, Piette, Rogers, & Valenstein, 2011). Equally, it could be that violent individuals, such as those included in this study, are simply not depressed, because if they were, it is less likely that they would have the motivation to be violent (Coid et al., (2013). The decreasing gradient from gang members to affiliates to violent men in their stalking of others (e.g. potential partners), is particularly interesting, and suggests that gang members and affiliates, may have skewed views of how to form relationships, which may be a reflection of their time spent in the care system. This is pure speculation, but it is worthy of further research attention.

That gang members and gang affiliates were more dependent on drugs and alcohol (gang members more than affiliates), than were violent men is consistent with previous claims that gang members are renowned for their drug (Decker & van Winkle, 1996), and alcohol consumption (Craig et al., 2002). Yet, most previous comparisons have compared gang members with non-gang individuals. Since we compared gang members with violent men, and a mass of evidence indicates a strong relationship between drug use, alcohol consumption, and violence (Fagan, 1990), it is somewhat surprising that the three groups in our study differed – since all are violent. Fagan notes, however, that the nexus between violence and substance use is complicated by personality, sociocultural and situational factors. It may be that gang members, and affiliates, engage in substance consumption to offset the distress of their psychiatric symptoms. Similarly, alcohol (and potentially drugs), are often used by gang members, as a form of social lubricant to reinforce cohesion, affirm masculinity, and expedite violence by enhancing members' inclination to fight (Hunt & Laidler, 2001). This suggests that substance use may be required, if the gang interacts regularly, and violently, with rivals. It is also likely that gang norms (see Wood, 2014), to which members will be expected to conform, exert a powerful influence on individuals'

substance consumption. Conformity to such group processes, may be less likely for violent men, and this could explain why their drug and/or alcohol consumption levels are lower.

Regarding traumatic events, the three groups had similar experiences of relationship breakdowns, deaths of partners or children, and job losses. Compared to violent men, gang members and affiliates (who did not differ), experienced more violence at work, domestic violence from partners, homelessness, serious money problems (gang members more than affiliates), bankruptcy, and were more likely to have been a victim of stalking. This latter finding may link to gang members' and affiliates' inclination to stalk others, or it may refer to rival gang members, rather than potential romantic partners, but more research is necessary before this can be clarified. It is interesting that, although affiliates experienced more actual injuries from physical attacks, than did violent men or gang members, gang members experienced the most life-threatening injuries, and the highest levels of sexual assaults, whilst affiliates and violent men did not differ on these variables. These findings suggest that gang members experience the most extreme forms of violence-related trauma. We cannot know, from the current data, if these traumatic events link specifically to being, or becoming, a gang member, but these findings do support previous work showing links between gang membership and elevated sexual, and violent, victimization (Taylor et al., 2008). Perhaps affiliates, because they associate less with the gang, are not so well known, and are less obvious targets for more life-threatening attacks, than gang members. Alternatively, gang members' experience of victimization elsewhere (e.g. at home), may be what motivates them to spend more time with their gang, and thus, they become better known targets for rivals, as noted earlier.

Our study has several limitations. Using self-definition of gang membership can be contentious, but it is a common and effective way of assessing gang membership (Decker, Pyrooz, Sweeten, & Moule, 2014), and, despite ongoing definitional debates (see also

Maxson & Esbensen, 2012), our interest in this study, was in how those involved in gang activity view themselves (i.e. as gang members or not). Asking participants about their previous behavior, also subjects our data to the vagaries of memory. Nonetheless, it is likely that adverse events will stand out in memory sufficiently to be reported. Also, symptom levels were captured by self-report, and not confirmed by clinical interviews, which may influence findings. However, it is argued that self-reports compare favorably with clinicians' assessments (Wittchen, Üstün, & Kessler, 1999), and our large sample size enabled examination of associations between psychiatric morbidity and trauma, unhindered by selection biases, that may occur with clinical samples. A limitation of random location sampling is that it does not allow us to know how many potential participants refused to participate. However, because this method provides samples based on the national census, we are more certain of gaining a representative sample of specific groups in the population. Our sample was derived only from the UK and so future research would benefit from taking a cross-cultural perspective on the mental health of gang members. However, there is no reason to expect that the differences identified within the current study would not equally apply to similar groups of men in other countries.

Very few gang studies have included mental health measures, and even fewer interventions focus on the mental health issues associated specifically with gang membership. This is the first study to compare a broad range of psychiatric, and trauma variables, in different levels of gang membership, and with violent non-gang men. In doing so, we have identified some of the differences that distinguish gang affiliates, gang members, and violent men. Our findings confirm that gang members' psychiatric morbidity, may warrant clinical interventions, and they challenge earlier claims that gang members do not need psychiatric intervention (Klein, 1995). Our findings reveal a disquieting trend that shows how gang members, regardless of their level of involvement in a gang, have more psychiatric morbidity,

and trauma, than even violent men. If we consider the implications of gang affiliates' and gang members,' elevated (as compared to violent men) prevalence of traumatic experiences, together with their higher symptom levels of anxiety, self-harm and suicide attempts, it seems likely that individuals who associate with gangs, at all, and especially those who call themselves gang members, are particularly vulnerable to Post Traumatic Stress Disorder (PTSD). Research examining violent offenders' PTSD shows that perpetrators of violence, may develop PTSD, from their violence (Gray et al., 2003). Their PTSD then exacerbates co-morbid psychiatric symptoms, and a propensity for further violence. This implies that if gang members develop PTSD, then they are likely to engage in further violence, which will, in turn, exacerbate their trauma.

Also, because gang members and gang affiliates are involved in violence as perpetrators and victims, it is understandable that they also have higher substance use (i.e. drugs and alcohol). The temptation to turn to drugs and/or alcohol to enhance group cohesion, ameliorate anxiety, and heighten violence-related excitement, is likely to be strong for gang members. Yet, paradoxically, substance use can increase anxiety and paranoia (Schneider et al, 2012), particularly for those who suffer PTSD.

As for treating gang members, the differences between gang members and gang affiliates, identified in this study, have important clinical implications. Our finding that affiliates experience higher symptom levels of psychiatric morbidity, compared to violent men, but lower levels than gang members, suggests that affiliates are a unique group for whom treatment should have more effective tailoring. For instance, affiliates, despite exhibiting many similarities to gang members, do not have the same high symptom levels of anxiety, psychosis, ASPD, gambling and substance abuse. This is important, as it suggests that affiliates may be more malleable to treatment, than are gang members, as Klein, (1971)

and Klein and Maxson, (2006) noted earlier. In turn, it also suggests that they would benefit from support, before they become more deeply embedded in a gang.

Future research needs to tease out the finer inter-relationships between the variables examined in this study. As our data can only outline links between gang membership and psychiatric morbidity, it would be useful for future research to adopt a longitudinal approach to establish the causal directions of gang membership, and psychiatric morbidity. For example, it is possible that individuals with pre-existing mental health issues see gangs as havens from previous/existing adverse experiences. Equally, it is possible that gang membership exacerbates or causes mental health problems, and only longitudinal designs can address these issues in full. Future research would also benefit from including more mental health measures. For instance, given the potential that gang members will develop PTSD, it is important that assessments of PTSD are included in future work, especially in longitudinal designs, to identify causal pathways. Nonetheless, our findings show that even loose associations with a gang, relate strongly to individuals' mental health problems. In turn, this link needs to be more fully acknowledged in targeted treatment, gang prevention programs, and future research, and, as our findings show, the level of an individual's gang membership needs to be considered, if treatments are to be effectively tailored to match these needs.

References

- Alleyne, E., & Wood, J. L. (2010). Gang involvement: Psychological and behavioural characteristics of gang members, peripheral youth and non-gang youth. *Aggressive Behavior*, 36, 423-436. <http://dx.doi.org/10.1016/j.avb.2009.08.005>
- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders: DSM-IV-TR*. Washington, DC: American Psychiatric Association.
- Babor T.F., Higgings-Bridle J.C., Saunders J.B., Monteiro M.: (2001). *The alcohol use disorders identification test*, Geneva, World Health Organization,
- Bebbington, P. E.; Nayani, T. (1995). The psychosis screening questionnaire. *International journal of methods in psychiatric research*, 5, 11 – 19.
- Berman A. H, Bergman H., Palmstierna T., Schlyter F. (2005): Evaluation of the drug use disorders identification test (DUDIT) in criminal justice and detoxification settings and in a Swedish population sample. *European addiction research*, 11 1, 22-31.
doi:10.1159/000081413
- Chu, C. M., Daffern, M., Thomas, S., & Lim, J. Y. (2012). Violence risk and gang affiliation in youth offenders: a recidivism study. *Psychology, Crime and Law*, 18, 299-315. doi:10.1080/1068316X.2010.481626
- Coid, J. W., Ullrich, S., Keers, R., Bebbington, P., DeStavola, B. L., Kallis, C., Yang, M., Reiss, D., Jenkins, R., Donnelly, P., (2013). Gang membership, violence, and psychiatric morbidity. *American Journal of Psychiatry*, 170(9), 985 – 993. doi:
10.1176/appi.ajp.2013.12091188
- 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(1), 53-68. doi: 10.1111/1467-9507.00186

Curry, G. D., Decker, S. H., & Egley Jr, A. (2002). Gang involvement and delinquency in a middle school population. *Justice Quarterly*, 19(2), 275-292. doi:

10.1080/07418820200095241

Decker, S. H. (2007). Youth gangs and violent behavior, in: Flannery, D. J., Vazsonyi A. T., Waldman, I. D., (Eds.), *The Cambridge handbook of violent behavior and aggression*, pp. 388-402.

Decker, S. H., Pyrooz, D. C., Sweeten, G., & Moule Jr., R. K. (2014). Validating self-nomination in gang research: Assessing differences in gang embeddedness across non-, current, and former gang members. *Journal of Quantitative Criminology*, 30, 577-598. doi: 10.1007/s10940-014-9215-8

Decker, S. H., & Van Winkle, B. (1996). *Life in the gang: Family, friends, and violence*. New York, NY: Cambridge University Press.

Densley, J. A. (2013). *How gangs work: An ethnography of youth violence*. Oxford, UK: Palgrave Macmillan.

Esbensen, F-A., Huizinga, D., & Weiher, A. W. (1993). Gang and non-gang youth: Differences in explanatory factors. *Journal of Contemporary Criminal Justice*, 9, 94-116. doi: 10.1177/104398629300900203

Fagan, J. (1990). Intoxication and aggression. *Crime & Justice*., 13, 241. Retrieved from HeinOnline (<http://heinonline.org>)

Goldstein, A. P. (1991). *Delinquent gangs: A psychological perspective*. Champaign, IL: Research Press.

Gray, N. S., Carman, N. G., Rogers, P., MacCulloch, M. J., Hayward, P., & Snowden, R. J. (2003). Post-traumatic stress disorder caused in mentally disordered offenders by the committing of a serious violent or sexual offence. *The Journal of Forensic Psychiatry & Psychology*, 14(1), 27-43. doi: 10.1080/1478994031000074289

Hunt, G. P., & Laidler, K. J. (2001). Alcohol and violence in the lives of gang members. *Alcohol research and health*, 25(1), 66-71. Retrieved from:
<http://pubs.niaaa.nih.gov/publications/arh25-1/66-71.htm>

Katz, C. M., Webb, V. J., Fox, K., & Shaffer, J. N. (2011). Understanding the relationship between violent victimization and gang membership. *Journal of Criminal Justice*, 39, 48-59. doi.org/10.1016/j.jcrimjus.2010.10.004

Klein, M. W. (1971). *Street gangs and street workers*. Englewood Cliffs, NJ: Prentice-Hall.

Klein, M. W. (1995). *The American street gang: Its nature, prevalence, and control*. New York, NY: Oxford University Press.

Klein, M. W., & Maxson, C. L. (2006). *Street gang patterns and policies*. New York, NY: Oxford University Press, Inc.

Klemp-North, M. (2007). Theoretical foundations of gang membership. *Journal of Gang Research*, 14, 11-26.

Mares, D. (2001). Gangstas or lager louts? Working class street gangs in Manchester. In M. W. Klein, H. J. Kerner, C. L. Maxson, & E. G. M. Weitekamp (Eds.), *The Eurogang paradox*. Dordrecht, the Netherlands: Kluwer, pp. 153-164.

Maxson, C. L., & Esbensen, F. A. (2012). The intersection of gang definition and group process: concluding observations. In *Youth Gangs in International Perspective*. Springer New York pp. 303-315.

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(4), 417-425. doi.org/10.1016/j.avb.2013.05.001

Pfeiffer, P. N., Heisler, M., Piette, J. D., Rogers, M. A., & Valenstein, M. (2011). Efficacy of peer support interventions for depression: A meta-analysis. *General Hospital Psychiatry*, 33, 1, 29-36. doi.org/10.1016/j.genhosppsy.2010.10.002

Pyrooz, D. C., Decker, S. H., & Webb, V. J. (2014). The ties that bind: Desistance from gangs. *Crime and Delinquency*, 60, 491-596. doi: 10.1177/0011128710372191

Pyrooz, D. C., Sweeten, G., & Piquero, A. R. (2013). Continuity and change in gang membership and gang embeddedness. *Journal of Research in Crime and Delinquency*, 50(2), 239-271. doi: 10.1177/0022427811434830.

Schneider, S., Peters, J., Bromberg, U., Brassens, S., Miedl, S. F., Banaschewski, T., & Büchel, C. (2012). Risk taking and the adolescent reward system: a potential common link to substance abuse. *American journal of psychiatry*, 169(1), 39-46.
doi:10.1176/appi.ajp.2011.11030489

Short, J. F. (1996). *Gangs and adolescent violence*. Center for the Study and Prevention of Violence. University of Colorado.

Short, J. F. (1997). *Poverty, ethnicity, and violent crime* (pp. 50-54). Westview Press. Boulder, CO.

Taylor, T. J., Freng, A., Esbensen, F.-A., & Peterson, D. (2008). Youth gang membership and serious violent victimization: The importance of lifestyles and routine activities.

Journal of Interpersonal Violence, 23, 1441-1464. doi: 10.1177/0886260508314306

Wittchen, H. U., Üstün, T. B., & Kessler, R. C. (1999). Diagnosing mental disorders in the community. A difference that matters? *Psychological Medicine*, 29(05), 1021-1027.

doi: <http://dx.doi.org/>

Valdez, A., Kaplan, C. D., & Codina, E. (2000). Psychopathy among Mexican American gang members: A comparative study. *International Journal of Offender Therapy and Comparative Criminology*, 44(1), 46-58. doi: 10.1177/0306624X00441005

Weerman, F. M., Maxson, C. L., Esbensen, F., Aldridge, J., Medina, J., & van Gemert, F., (2009). Eurogang program manual background, development, and use of the Eurogang

instruments in multi-site, multi-method comparative research. Retrieved from:

http://www.umsl.edu/~ccj/eurogang/Eurogang_20Manual.pdf

Wood, J.L. (2014). Understanding gang membership: The significance of group processes. *Group Processes and Intergroup Relations*, 17, 710-729. doi:

10.1177/1368430214550344

Wood, J. L. (2006). Gang activity in English prisons: The prisoners' perspective.

Psychology, Crime & Law, 12, 605–617. doi:10.1080/10683160500337667

Wood, J. L., & Alleyne, E. (2010). Street gang theory and research: Where are we now and where do we go from here? *Aggression and Violent Behavior*, 15, 100-111.

doi.org/10.1016/j.avb.2009.08.005

Wood, J. L., Alleyne, E., Mozova, K., & James, M. (2013). Predicting involvement in prison gang activity: Street gang membership, social and psychological factors. *Law and Human Behavior*, 38, 203-211. doi.org/10.1037/lhb0000053

Yablonsky, L. (1959). The delinquent gang as a near-group. *Social Problems*, 108-117.
Retrieved from: <http://www.jstor.org/stable/799161>

Yablonsky, L. (1997). *Gangsters: 50 Years of Madness, Drugs, and Death on the Streets of America*. NYU Press.

Zigmond, A. S., & Snaith, R. P. (1983). The hospital anxiety and depression scale. *Acta psychiatrica scandinavica*, 67(6), 361-370. doi: 10.1111/j.1600-0447.1983.tb09716.x

Table 1: Demographic Characteristics of Violent Men Affiliate gang members and Gang Members (N = 1539)

Demographics	Violent men		Affiliate gang members		Gang members		Affiliate gang members vs. violent men		Gang members vs. violent men		Gang members vs. Affiliate gang members	
	[n=1312, 83.3%]		[n=119, 7.7%]		[n=108, 7.0%]		OR	95% CI	OR	95% CI	OR	95% CI
	n	%	n	%	n	%						
Lower social class	625	47.6	44	37.3	50	46.1	1.69	0.60, 4.76	1.82	0.49, 6.70	1.08	0.21, 5.46
Other	554	42.2	70	58.5	44	41.0	1.38	0.44, 4.33	1.01	0.24, 4.30	0.73	0.13, 4.20
Ethnicity												
White [reference]	1007	76.8	92	77.0	37	34.1	-	-	-	-	-	-
Black	138	10.5	20	16.7	53	49.4	2.94**	1.43, 6.06	15.19**	7.85, 29.38	5.16***	2.20, 12.11

*												
Asian	152	11.6	7	5.8	16	15.3	1.31	0.51, 3.39	6.49***	2.69, 15.63	4.95*	1.46, 16.81
Other	14	1.1	1	0.6	1	1.2	0.94	0.11, 7.93	7.16*	1.20, 42.68	7.61	0.63, 92.45
Non-UK born	104	8.1	7	6.1	5	4.6	1.32	0.59, 2.98	0.24*	0.07, 0.84	0.18*	0.05, 0.72
Single	894	68.5	101	85.6	61	57.7	2.77*	1.22, 6.30	0.50	0.23, 1.09	0.18**	0.06, 0.55
Unemployed	557	43.8	76	64.6	51	50.4	1.80	0.93, 3.49	2.04	0.92, 4.51	1.13	0.45, 2.85
Lives alone	241	18.4	29	24.0	17	15.7	1.23	0.69, 2.20	0.99	0.41, 2.37	0.81	0.30, 2.20
Lives with parents	400	30.5	52	43.7	35	32.3	1.33	0.77, 2.29	1.84	0.97, 3.49	1.38	0.63, 3.04
Contact with child												
Yes	357	28.1	28	23.9	31	30.2	-	-	-	-	-	-
No children	868	68.2	76	64.4	64	61.4	0.54	0.27, 1.10	0.82	0.41, 1.61	1.51	0.61, 3.73

Have children/no regular contact	48	3.8	14	11.7	9	8.4	2.30	0.97, 5.46	1.20	0.28, 5.15	0.52	0.11, 2.43
Local Authority care	74	5.8	24	21.2	18	19.3	3.69***	1.98, 6.88	2.99*	1.21, 7.38	0.81	0.30, 2.22
Age (years)	Mean	SD	Mean	SD	Mean	SD	0.94*	0.89, 0.99	0.94	0.88, 1.01	1.00	0.92, 1.09
	25.39	5.02	24.47	5.16	25.13	5.31						

Table 1: Demographic Characteristics of Violent Men Affiliate gang members and Gang Members *p < 0.05. **p < 0.01. ***p < 0.001 AORs are adjusted for other demographic characteristics, Index of Multiple Deprivation and survey type. All 95% CI are computed using robust standard errors to account for correlations within survey areas due to clustering within postcodes.

Table 2: Numbers and percentages of each group according to their psychopathology

	Violent men (n = 1312, 27.2%)		Affiliate gang members (n = 119, 2.5%)		Gang members (n = 108, 2.2%)	
	n	%	n	%	n	%
Psychosis	65	5.1	12	10.4	26	25.1
Depression	122	9.4	15	12.7	21	19.7
Anxiety	256	20.0	39	33.2	63	58.9
Pathological gambling	66	5.5	19	17.2	57	55.7
Problem pornography/porn addiction	19	1.5	8	7.0	33	32.3
ASPD	359	28.3	79	68.6	86	85.8
Stalking others	35	2.7	17	14.9	44	42.1
Drug dependence	61	4.8	23	20.1	59	57.4
Alcohol dependence	185	14.7	43	38.2	68	66.6
Deliberate self- harm	130	10.1	22	18.5	39	36.8
Suicide attempt	129	10.0	22	19.3	35	34.2

Table 3:

Table 3: Comparison of psychiatric morbidity between Affiliate gang members, violent men and gang members (N = 1539)

Psychopathology *	Affiliate gang members vs. violent men		Gang members vs. violent men		Gang members vs. Affiliate gang members	
	OR [95% CI]	p	OR [95% CI]	p	OR [95% CI]	p
Psychosis (PSQ 3+)	1.84 [0.87, 3.90]	0.110	4.44 [2.29, 8.60]	<0.001	2.41 [1.05 – 5.56]	0.039
Depression (HADS 11+)	1.33 [0.72, 2.44]	0.366	2.04 [0.97, 4.30]	0.061	1.54 [0.63 – 3.74]	0.342
Anxiety (HADS 11+)	1.90 [1.23, 2.93]	0.004	4.01 [2.39, 6.71]	<0.001	2.11 [1.13 – 3.94]	0.018
Pathological gambling	2.56 [1.40, 4.68]	0.002	8.70 [5.04, 15.02]	<0.001	3.40 [1.72 – 6.73]	<0.001
Problem pornography/porn addiction	3.82 [1.63, 8.93]	0.002	10.01 [4.10, 24.42]	<0.001	2.62 [0.95 – 7.25]	0.063
ASPD	5.35 [3.37, 8.49]	<0.001	18.73 [8.62, 40.68]	<0.001	3.50 [1.48 – 8.26]	0.004
Stalking screen +ve	5.82 [3.04, 11.13]	<0.001	12.96 [7.14, 23.51]	<0.001	2.23 [1.09 – 4.55]	0.028
Drug dependence	3.40 [1.89, 6.11]	<0.001	21.88 [11.27, 42.48]	<0.001	6.44 [3.04 – 13.66]	<0.001
Alcohol dependence	3.11 [1.96, 4.94]	<0.001	7.14 [4.23, 12.08]	<0.001	2.30 [1.23 – 4.29]	0.009
Deliberate self-harm	2.01 [1.23, 3.29]	0.005	3.64 [2.19, 6.05]	<0.001	1.81 [0.96 – 3.43]	0.067
Suicide attempt	1.73 [1.05, 2.85]	0.031	2.36 [1.38, 4.05]	0.002	1.36 [0.67 – 2.79]	0.395

* Adjusted for non-UK birth, being single, unemployment, ethnicity, age, Index of Multiple Deprivation and survey type. All 95% CI are computed using robust standard errors to account for correlations within survey areas due to clustering within postcodes.

Table 4: Numbers and percentages of each group according to their experience of traumatic events

Adulthood traumatic events	Violent men		Gang fights		Gang members	
	(n = 1312, 27.2%)		(n = 119, 2.5%)		(n = 108, 2.2%)	
	n	%	n	%	n	%
Being injured as a result of a physical attack	394	30.0	66	55.5	29	27.1
A victim of stalking	38	2.9	8	6.5	7	6.6
Violence at work	56	4.3	7	5.6	17	15.6
Domestic violence in the home from a partner	51	3.9	14	11.9	19	17.9
Sexual assault	16	1.2	4	3.3	16	15.2
Serious/life threatening injury	67	5.1	10	8.7	21	19.4
Marital separation/steady relationship breakdown	173	13.2	13	11.2	13	12.2
Death of husband/wife or partner or child	21	1.6	2	1.9	4	4.0
Being sacked or made redundant	321	24.5	37	30.7	20	18.7
Being homeless	191	14.5	31	26.3	28	26.0
Serious money problems	388	30.0	41	34.7	58	54.2
Made bankrupt	33	2.5	7	5.7	20	19.0

Table 5: Comparisons of adulthood traumatic events by group membership (N = 1538)

Adulthood traumatic events *	Affiliate gang members		Gang members vs.		Gang members vs.	
	vs.violent men		violent men		Affiliate gang members	
	OR [95% CI]	p	OR [95% CI]	p	OR [95% CI]	p
Being injured as a result of a physical attack	2.88 [1.86, 4.47]	<0.001	1.45 [0.82, 2.58]	0.205	0.50 [0.27, 0.95]	0.034
A victim of stalking	3.27 [1.25, 8.55]	0.015	3.00 [1.01, 8.88]	0.047	0.92 [0.27, 3.08]	0.887
Violence at work	2.51 [1.02, 6.17]	0.046	7.01 [2.71, 18.16]	<0.001	2.80 [0.85, 9.19]	0.090
Domestic violence in the home from a partner	4.01 [1.97, 8.18]	<0.001	6.69 [2.77, 16.15]	<0.001	1.67 [0.64, 2.34]	0.295
Sexual assault	1.86 [0.60, 2.58]	0.284	7.26 [2.60, 20.25]	<0.001	3.90 [1.21, 12.59]	0.023
Serious/life threatening injury	1.45 [0.74, 2.84]	0.275	6.18 [2.79, 13.71]	<0.001	4.26 [1.70, 10.66]	0.002
Marital separation/steady relationship breakdown	0.94 [0.50, 1.77]	0.856	1.10 [0.47, 2.54]	0.832	1.16 [0.43, 3.13]	0.768
Death of husband/wife or partner or child	1.79 [0.32, 9.88]	0.504	1.79 [0.53, 6.00]	0.348	1.00 [0.17, 5.96]	0.998
Being sacked or made redundant	1.51 [0.95, 2.39]	0.082	1.22 [0.65, 2.30]	0.542	0.81 [0.40, 1.62]	0.549
Being homeless	1.91 [1.17, 3.13]	0.010	3.71 [1.99, 6.93]	<0.001	1.94 [0.95, 3.98]	0.071
Serious money problems	1.40 [0.88, 2.21]	0.155	3.68 [2.10, 6.44]	<0.001	2.64 [1.34, 5.18]	0.005
Made bankrupt	3.08 [1.28, 7.39]	0.012	7.39 [3.42, 15.95]	<0.001	2.40 [0.81, 7.09]	0.113

* Adjusted for non-UK birth, being single, unemployment, ethnicity, age, Index of Multiple Deprivation and survey type. All 95% CI are computed using robust standard errors to account for correlations within survey areas due to clustering within postcodes.