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Gang membership and sexual violence: associations with childhood maltreatment and psychiatric morbidity

Jeremy Coid, Rafael A. González, Constantinos Kallis, Yamin Zhang, YuanYuan Liu, Jane Wood, Zara Quigg and Simone Ullrich

Background
Gang members engage in many high-risk sexual activities that may be associated with psychiatric morbidity. Victim-focused research finds high prevalence of sexual violence towards women affiliated with gangs.

Aims
To investigate associations between childhood maltreatment and psychiatric morbidity on coercive and high-risk sexual behaviour among gang members.

Method
Cross-sectional survey of 4665 men 18–34 years in Great Britain using random location sampling. The survey oversampled men from areas with high levels of violence and gang membership. Participants completed questionnaires covering violent and sexual behaviours, experiences of childhood disadvantage and trauma, and psychiatric diagnoses using standardised instruments.

Results
Antisocial men and gang members had high levels of sexual violence and multiple risk behaviours for sexually transmitted infections, childhood maltreatment and mental disorders, including addictions. Physical, sexual and emotional trauma were strongly associated with adult sexual behaviour and more prevalent among gang members. Other violent behaviour, psychiatric morbidity and addictions accounted for high-risk and compulsive sexual behaviours among gang members but not antisocial men. Gang members showed precursors before age 15 years of adult preference for coercive rather than consenting sexual behaviour.

Conclusions
Gang members show inordinately high levels of childhood trauma and disadvantage, sexual and non-sexual violence, and psychiatric disorders, which are interrelated. The public health problem of sexual victimisation of affiliated women is explained by these findings. Healthcare professionals may have difficulties promoting desistance from adverse health-related behaviours among gang members whose multiple high-risk and violent sexual behaviours are associated with psychiatric morbidity, particularly addictions.

Keywords
Epidemiology; psychotic disorders; childhood experience; alcohol disorders; drugs of dependence disorders.

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Psychiatric morbidity and violent behaviour are closely associated and inordinately prevalent among street gang members. Sexual assault and exploitation of gang-affiliated women have been under-reported and rarely included in studies of gang violence but gained recognition as a serious public health problem following publication of three UK reports. Few gang-affiliated women report rape because of fear of violent retaliation and because neither victims nor perpetrators identify unwanted sex as rape. Mechanisms involved in gang-related sexual violence are not fully understood. However, sexual access through instrumental violence is one of several commodities in gangs, including money and substances. Sexual coercion is also among several violent behaviours shown by severely antisocial individuals where violent versatility involving different victim types, multiple heterosexual encounters, enhancement of self-esteem through dominance of sexual partners and overt homophobia reinforced by subculture and music correspond to the hypermasculine gang environment. For some, excitement from sensation-seeking through multiple forms of sexual risk-taking could be associated with sexual violence. A key research question is whether aetiological factors and early behavioural equivalents, or precursors, of adult sexual violence and high-risk behaviour are observed before or after joining a gang. Adult gang members typically show life-course persistence of early violence and conduct disorder to antisocial personality disorder (ASPD). Conduct disorder is strongly associated with child maltreatment and both predispose to joining a gang. Among different forms of maltreatment, sexual abuse has a specific association with adult sexual offending. However, there is little information on childhood sexual abuse among gang members, associations between childhood maltreatment and their adult sexual behaviour, or other psychopathological factors that may explain these behaviours in adulthood.

The aims of this study were to investigate (a) associations between childhood experiences of maltreatment and coercive and high-risk sexual behaviours in adulthood in a nationally representative sample of young men; (b) explanatory effects of psychiatric morbidity, addictive behaviours and violence in adulthood on their sexual behaviour. Because gang membership involves a highly anti-social lifestyle, to identify the specific effects of gang membership on sexual behaviour we compared gang members with young men with adult antisocial personality disorder (AAS – defined as three or more DSM-IV ASPD criteria in adulthood, irrespective of whether or not they qualified for a DSM-IV diagnosis of conduct disorder before age 15 years) but not in gangs, and with other young men.

Method
This study has been previously described. The survey was carried out in 2011 based on random location sampling. Individual sampling...
units (census areas of 150 households) were randomly selected
within British regions in proportion to their population to derive a
representative sample of young men (18–34 years) from England,
Scotland and Wales. There were four additional, boost surveys over-
sampling young Black and minority ethnic men, and those from
lower social grades. Two boost surveys oversampled from output
areas in locations characterised by high gang membership: the
London Borough of Hackney and Glasgow East, Scotland. The
same sampling principles applied to each survey type.

The self-administered questionnaire piloted in a previous
survey was adapted and informed consent obtained from respon-
dents. Participants were contacted in person by interviewers and,
if agreeing to participate, completed the pencil and paper question-
naire in private and returned it to the interviewer. All participants
were paid £5 for taking part in the survey and all questionnaires
were anonymised.

Weights were constructed for each survey using Random
Iterative Method (RIM) weighting to ensure representativity of
the sample. All descriptive and subsequent statistical comparisons
were based on weighted data.

The authors assert that all procedures contributing to this work
comply with the ethical standards of the relevant national and insti-
tutional committees on human experimentation and with the
Helsinki Declaration of 1975, as revised in 2008. All procedures
involving human participants were approved by Queen Mary
University of London ethics committee.

Survey measures
The Psychosis Screening Questionnaire12 screened participants for
psychosis when ≥3 criteria were met. The Hospital Anxiety and
Depression Scale13 was used to define anxiety and depression
based on the score of >11 in the past week. Scores >20 on the
Alcohol Use Disorders Identification Test14 and scores of >25 on
the Drug Use Identification Test15 were used to identify alcohol
use disorders or drug dependence, respectively. The South Oaks Gambling
Screen identified pathological gambling at a cut-off of >5.16

Questions from the Structured Clinical Interview for DSM-IV
Personality Disorders Screening Questionnaire17 identified anti-
social personality disorder (ASPD) consisting of conduct disorder
and adult antisocial items. For our comparison group with gang
members, adult antisocial personality disorder (AAS) only was
used when three or more of seven items were present (DSM:
301.7). We used 312.8 conduct disorder item 7 ‘has forced
someone into sexual activity’ before age 15 to identify a putative pre-
cursor of adult coercive or other adult sexual behaviour. We
retained a categorical diagnostic measure of conduct disorder
when a participant scored 3 or more on the remaining 14 items.
Participants also reported whether they had first experienced
sexual intercourse before 13 years.

Participants screened positive for problem pornography use when
endorsing ≥3: prolonged time, spending excessive money, feeling bad
about, losing relationships, seeking help, fear of and actual police
involvement, due to pornography use, and concealing use.

We measured stalking using the Obsessive Relational Intrusion
Scale (short form) when two behaviours, including pursuit, viola-
tion, threat or hyperintimacy had occurred more than once.18

Gang membership, child maltreatment and sexual
behaviour
All participants were questioned about their sexual behaviour,
including close relationships, high-risk, sensation-seeking and puta-
tive compulsive sexual behaviours in adulthood. This included
whether they had ten or more sexual partners in the past year, sex
usually occurred when intoxicated, contraceptives used rarely/
never, sex with a prostitute ten occasions or more in lifetime, sex
with multiple partners during the same encounter ever, currently
having sex with men, anal sex ever, been paid themselves ever for
sex, and regularly visited strip/lap dancing clubs or parties ≥2 per
week. They were also asked whether they had forced partners to
have sex against their will in the past year and in more than half
of encounters in the past year, and whether they had ever been con-
victed of a sexual offence.

They were asked about experiences of maltreatment and disadvantage
before age 16 years including witnessing violence in the
home, sexual abuse, physical abuse, neglect, being placed in care
and first sexual intercourse <13 years. They were asked questions
about other violence over the past 5 years, including whether they
had deliberately been violent to obtain money, drugs or sex,
whether they were involved in violence because they found it excit-
ing, and whether they would become violent if disrespected.

They were asked ‘Are you currently a member of a gang?’ and
included three of the five UK criminal justice agency criteria19
that could be captured using self-report, covering predominantly
street-based individuals who see themselves as a discernible
group, engage in criminal activity or violence and are in conflict
with similar gangs. For inclusion in the study, gang members had
to endorse gang membership and one or more of the following:
serious criminal activities or convictions, involvement with
friends in criminal activities or involvement in gang fights during
the past 5 years. Participants were divided into three mutually exclu-
sive groups:

(a) other men group: participants who did not screen positive for
AAS and did not report gang membership;
(b) AAS group – participants screened positive for AAS but did not
report gang membership;
(c) Gang member group.

Statistical analysis
We initially compared the demographic characteristics of the other
men group, those with AAS and gang members using logistic regres-
sion to identify potential confounders. Three analyses were per-
formed comparing other men with AAS, other men with gang
members, and the AAS group with gang members. Differences
between other men, those with AAS and gang members with
respect to childhood maltreatment, adolescent precursors of
violent and sexual behaviours, and sexual behaviour in adulthood,
psychiatric morbidity, addictive disorders, and other violence
were established by performing logistic regression analyses in the
two comparison groups. As above, the three analyses were con-
ducted comparing other men and those with AAS, other men and
gang members, and those with AAS and gang members.

Finally, we investigated whether associations between (a) gang
membership, (b) violent and criminal sexual behaviour, compulsive
behaviour, and HIV/sexually transmitted infection (STI) risk behav-
our were explained by specific characteristics of other violent
behaviour (instrumental, for excitement, because of disrespect),
psychiatric morbidity (depression, anxiety, psychosis) and addictive
behaviour (alcohol and drug dependence, problem gambling) using
an explanatory statistical model used in a previous investigation
with this sample.1 Potential explanatory variables were first identified
by testing their association with (a) gang membership and violent/
criminal sexual behaviour, compulsive behaviour and HIV/STI risk
factors, and (b) characteristics of other violent behaviour, psychiatric
morbidity, addictive behaviours. Only if both associations were
significant at an alpha level of 0.05 were variables selected and
then entered in an adjusted model, with group membership as the
independent variable and characteristics of violence, psychiatric
morbidity or addictive behaviour as the dependent variable.

Coid et al
Screen identified pathological gambling at a cut-off of >5.16
or drug dependence, respectively. The South Oaks Gambling
Alcohol Use Disorders Identification Test14 and scores of >25 on
University of London ethics committee.
We examined the percentage reduction in the baseline odds of each sexual behaviour after adding each of the potentially explanatory variables into the following equation:

\[
\left( \hat{\beta}_{\text{unadjusted}} - \hat{\beta}_{\text{adjusted}} \right) / \hat{\beta}_{\text{unadjusted}} \times 100.
\]

The percentage change was calculated based on beta scores, from models on the logit scale (i.e. not exponentiated). In a final model, all explanatory variables were entered simultaneously. Comparisons between baseline-adjusted and fully adjusted coefficients were used to estimate the extent to which the association between group membership and sexual behaviour was accounted for by the explanatory variable.

To control for differences between samples, survey type (i.e. random or boost) was included as a covariate in all analyses using the Huber–White sandwich approach. All models were adjusted for age, being single, employment status, being non-UK born and ethnicity. We also used robust standard error to account for correlations between survey areas because of clustering within postal codes. An alpha level of 0.05 was adopted throughout. All analyses were performed in Stata Version 12 (StataCorp, College Station, Texas, USA).

### Results

#### Demography and sampling

The weighted sample included 4665 men who were 18–34 years of age: 1822 (39.1%) from the main survey; 969 (20.8%) from the ethnic minority sample; 555 (11.9%) men from lower social classes; 624 (13.4%) from Hackney; and 694 (14.9%) from Glasgow East. Of the total sample, 108 (2.3%) reported current gang membership, 678 (14.5%) ≥ 3 were in the AAS group, and there were 3879 (83.2%) other men.

**Table 1** shows that AAS men were older on average than those in the other men group, more were unemployed, but fewer originated from the Indian subcontinent or lived in Hackney. Gang members were younger than those in the other men group, less likely to be single or non-UK born, but more likely to be unemployed, Black or from the Indian subcontinent. Compared with the AAS men group, gang members were also more likely to be younger, less likely to be single and non-UK born, and more likely to be Black and from the Indian subcontinent.

#### Sexual behaviour, childhood maltreatment and psychopathology

**Table 2** shows analyses of reported experiences of child maltreatment, adult sexual behaviour, other associated violence, psychiatric morbidity and addictions, comparing the gang members, the AAS men group and the other men group. The data show a marked gradient with each category infrequent among the other men group but increasing progressively from the AAS men group to gang members. This gradient was confirmed for all outcomes (P < 0.001) including addictions. However, the gradient was less apparent for several adult sexual behaviours where there were fewer significant differences between the AAS men and other men groups, but with extreme differences because of higher prevalence among gang members.

The three pairwise sets of analysis were then used to explore the relationships in more detail (**Table 2**). The AAS men group differed significantly from the other men group on all measurements except attending strip/lap dancing clubs and partying. The differences between gang members and the other men group in relation to child maltreatment, child/adolescent precursors, adult sexual behaviour, other violence, psychiatric morbidity and addictions were considerably greater, except for depression. Gang members demonstrated higher levels of all items than the AAS men group, except for depression (see also supplementary Fig. 1 available at https://doi.org/10.1192/bjp.2020.69).

#### Childhood maltreatment and adult sexual behaviour

**Table 3** shows associations between adverse childhood experiences (including child maltreatment) and the dependent variables of sexual behaviour in adulthood in the total sample. Witnessing violence in the home was associated with coercive adolescent sexual behaviour, problem pornography use, anal sex, STIs, sex usually intoxicated, multiple partners in same encounter. Sexual abuse was associated with adolescent coercive sex, anal sex, being paid for sex; ≥10 encounters with prostitutes. Physical abuse was associated with sex usually intoxicated, multiple partners in same encounter. Neglect was associated with adolescent coercive sex,
We investigated whether other violence associated with gang activity, psychiatric morbidity and addictions explained the elevated rates of sexual behaviour in adulthood among the antisocial men group and gang members. Supplementary Table 1 presents the change in odds of four domains of sexual behaviour in adulthood among the antisocial men group compared with the other men group after accounting for other violence (instrumental, excitement, due to disrespect), psychiatric morbidity (psychosis, anxiety disorder, depression), addictions (drug and alcohol dependence and pathological gambling), (percentage of change in odds explained by these variables). Reductions can be seen for each of the outcomes. However, only coercive sex preference and varied sexual experiences of ≥10 partners in the past year and sex with prostitutes were no longer significant.

### Table 2

Adult sexual behaviour, psychiatric morbidity, addictive, adult violent behaviour and gang membership (n = 4665)

<table>
<thead>
<tr>
<th>Measure</th>
<th>Other men</th>
<th>Gang member</th>
<th>Men with AAS</th>
<th>Gang members</th>
<th>Gang members</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>group</td>
<td>AAS group</td>
<td>group</td>
<td>compared with other group</td>
<td>compared with AAS group</td>
</tr>
<tr>
<td></td>
<td>n = 3879</td>
<td>n = 678</td>
<td>n = 108</td>
<td>(83.2%)</td>
<td>(14.5%)</td>
</tr>
<tr>
<td>Sex, STI risk</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HIV/STI risk</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contraceptives rare/never</td>
<td>912</td>
<td>26.0</td>
<td>180</td>
<td>35.3</td>
<td>57</td>
</tr>
<tr>
<td>Anxal sex</td>
<td>560</td>
<td>15.2</td>
<td>174</td>
<td>34.7</td>
<td>58</td>
</tr>
<tr>
<td>Physical abuse</td>
<td>89</td>
<td>2.4</td>
<td>44</td>
<td>8.5</td>
<td>27</td>
</tr>
<tr>
<td>STI (ever)</td>
<td>239</td>
<td>6.4</td>
<td>133</td>
<td>26.1</td>
<td>48</td>
</tr>
<tr>
<td>≥10 partners past year</td>
<td>188</td>
<td>5.3</td>
<td>44</td>
<td>9.1</td>
<td>37</td>
</tr>
<tr>
<td>Prostitutes (≥10) ever</td>
<td>26</td>
<td>0.7</td>
<td>11</td>
<td>2.1</td>
<td>28</td>
</tr>
<tr>
<td>Sex usually intoxicated</td>
<td>543</td>
<td>15.8</td>
<td>201</td>
<td>42</td>
<td>68</td>
</tr>
<tr>
<td>Multiple partners (same encounter)</td>
<td>536</td>
<td>14.6</td>
<td>199</td>
<td>39</td>
<td>57</td>
</tr>
<tr>
<td>Sex with men</td>
<td>116</td>
<td>3.1</td>
<td>27</td>
<td>5.3</td>
<td>23</td>
</tr>
</tbody>
</table>

### Child maltreatment

| Witnessing violence in home | 419 | 10.4 | 239 | 46 | 47 | 43.4 | 6.330 | 5.03-7.96 | 9.500 | 5.79-15.99 | 1.5 | 0.90-2.50 |
| Sexual abuse | 62 | 1.5 | 32 | 6.2 | 20 | 18.6 | 4.190 | 2.54-6.91 | 15.010 | 7.94-28.37 | 3.58 | 1.73-741 |
| Physical abuse | 150 | 3.7 | 103 | 19.7 | 31 | 29 | 5.600 | 4.11-7.73 | 12.400 | 7.05-21.82 | 2.20 | 1.21-3.98 |
|Neglect | 112 | 2.8 | 82 | 15.7 | 32 | 30.2 | 7.370 | 5.17-10.53 | 15.020 | 8.32-27.13 | 2.04 | 1.10-3.77 |
|First intercourse ≤13 years | 146 | 4.5 | 114 | 22.9 | 49 | 47.8 | 5.600 | 4.07-7.83 | 14.710 | 8.99-24.09 | 2.61 | 1.52-4.47 |
| In care | 77 | 2.0 | 61 | 12.8 | 19 | 19.2 | 5.300 | 3.60-8.07 | 8.980 | 4.03-20.02 | 1.67 | 0.73-3.79 |

### Violent behaviour (past 5 years)

| Instrumental violence | 50 | 1.3 | 72 | 13.8 | 77 | 71.9 | 13.520 | 8.48-21.57 | 174.000 | 99.79-303.38 | 12.87 | 6.98-23.72 |
| Violence for excitement | 102 | 2.5 | 101 | 19.3 | 58 | 53.6 | 9.430 | 6.76-13.14 | 45.470 | 26.58-77.79 | 4.82 | 2.70-8.64 |
| Violent if disrespectful | 519 | 12.9 | 266 | 51.2 | 87 | 81.3 | 7.000 | 5.59-8.77 | 29.540 | 15.50-57.42 | 4.42 | 2.13-8.35 |

### Psychiatric morbidity

| Psychosis | 52 | 1.3 | 33 | 6.5 | 26 | 25.1 | 6.640 | 3.96-11.15 | 18.230 | 9.12-36.44 | 2.75 | 1.38-5.46 |
| Anxiety disorder | 449 | 11.3 | 136 | 26.5 | 63 | 58.9 | 3.120 | 2.40-4.06 | 10.590 | 6.27-17.91 | 3.40 | 1.95-5.93 |
| Depressive disorder | 345 | 8.7 | 65 | 12.5 | 21 | 19.7 | 1.570 | 1.12-2.20 | 1.14 | 0.51-2.53 | 0.72 | 0.32-1.65 |
| Personality disorder | 426 | 11.1 | 476 | 71.3 | 95 | 88.5 | 17.880 | 14.33-22.30 | 86.670 | 35.58-211.13 | 4.85 | 1.96-11.98 |
| Conduct disorder | 0 | 0.0 | 678 | 100.0 | 95 | 92.5 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| Addictive personality disorder | 0 | 0.0 | 476 | 71.9 | 86 | 85.8 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |

### Drug dependence

| Drug dependence | 22 | 0.6 | 65 | 12.8 | 59 | 57.4 | 20.800 | 11.19-38.99 | 196.460 | 94.45-408.63 | 9.44 | 4.77-18.71 |
| Alcohol dependence | 266 | 6.8 | 99 | 19.9 | 68 | 66.6 | 3.440 | 2.54-4.65 | 23.270 | 13.11-41.33 | 6.77 | 3.72-12.33 |
| Pathological gambling | 60 | 1.7 | 53 | 10.6 | 57 | 55.7 | 6.990 | 4.39-11.13 | 36.850 | 21.57-62.93 | 5.27 | 2.93-9.46 |

**Note:** All models were adjusted for age, being single, employment status, non-UK born, ethnicity and survey type.

**AAS, adult antisocial personality disorder; AOR, adjusted odds ratio; STI, sexually transmitted infection.**

**P < 0.05, **P < 0.01, ***P < 0.001. n values may differ due to missing data. See supplementary Table 4 for further information.
Comparison of the gang member group and other men group (supplementary Table 2) showed that attending strip/lap dancing clubs, partying, contraceptive use rare/never, paid for sex, STIs and >10 partners in the past year were no longer significant and explained by other violent behaviour, psychiatric morbidity and addictions.

Comparison of the gang member and antisocial men groups (supplementary Table 3) showed that higher rates of coercive sex preference, visiting strip/lap dancing clubs, contraceptive use rare/never, paid for sex, STIs, ≥10 partners in the past year, sex with prostitutes, sex usually intoxicated and multiple partners in the same encounter were substantially explained by other violent behaviour, psychiatric morbidity and addictions.

### Discussion

#### Violent and high-risk sexual behaviour

We found high levels of sexual violence and multiple risk behaviours for STIs and HIV among British gang members. We observed a marked gradient in levels of these behaviours together with psychiatric morbidity, including addictions, characteristics of their non-sexual violence and childhood adverse experiences across the three groups. In general, all were more prevalent among antisocial men and gang members than among the other men group. Because most of these factors were more prevalent among gang members than the antisocial men group, our findings explain the public health problem of widespread sexual violence and exploitation of gang-affiliated women reported in victim-focused research.\(^1,2,4\)

Among male-dominated gangs, female members are considered inferior, expected to be subservient and provide sex. Many perceive sexual violence as normal and inevitable.\(^2,4\) More than 40% of gang members in our study reported coercive sexual behaviour before age 15 years and nearly a third reported coercion during most sexual encounters during the past year. Only gang members reported convictions for a sexual offence. These findings, together with repetitive use of pornography and prostitutes, multiple sexual partners and frequent attendance at strip/lap dancing clubs indicated components of hypersexuality and compulsivity in their sexual behaviour. These findings also questioned whether, for some, violent rather than consensual sex had become preferential.\(^9,10,21\)

We confirmed high rates of risk-taking behaviours previously observed in gangs including sex when intoxicated, infrequent condom use, sex with prostitutes, STIs, sex for money and group sex.\(^7,23\) Group sex in gangs can be part of initiation and occurs at parties where it is often unclear whether sex is consensual or coerced.\(^7,24-27\) Reports of same-sex behaviour were new findings. Gay identity is rarely reported and usually considered unacceptable in the hypermasculine gang environment.\(^28\) Nevertheless, gang members are more likely to report sex while in prison.\(^23\) Our finding that one in five reported sex with men requires further investigation, questioning whether predatory sexual behaviour can include younger male gang members as well as affiliated females.

#### Childhood maltreatment and sexual behaviour in adulthood

We found a marked gradient in experiences of childhood maltreatment across the three groups. All forms were more prevalent among the antisocial men group and gang members. However, sexual and physical abuse, neglect, and early sexual initiation were all more common among gang members than antisocial men. When examined across the entire sample, childhood maltreatment experiences showed strongest associations with forcing sex on others before age 15 years, although these were weaker for coercive sex in adulthood. Sexual coercion before 15 years may therefore have been the

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### Table 3

<table>
<thead>
<tr>
<th>Witnessing violence at home</th>
<th>Sexual abuse</th>
<th>Physical abuse</th>
</tr>
</thead>
<tbody>
<tr>
<td>95% CI</td>
<td>AOR</td>
<td>95% CI</td>
</tr>
<tr>
<td>Sexual coercion before 15 years</td>
<td>1.62</td>
<td>0.29-2.59</td>
</tr>
<tr>
<td>Sexual violence before 15 years</td>
<td>1.72</td>
<td>0.44-6.76</td>
</tr>
<tr>
<td>stalking before 15 years</td>
<td>1.35</td>
<td>0.52-3.44</td>
</tr>
<tr>
<td>Convulsive behaviour before 15 years</td>
<td>1.55</td>
<td>0.77-3.13</td>
</tr>
<tr>
<td>Strip/lap dancing clubs (≥2 weekly)</td>
<td>3.64</td>
<td>0.82-15.89</td>
</tr>
<tr>
<td>Drug use before 15 years</td>
<td>1.49</td>
<td>0.76-2.91</td>
</tr>
<tr>
<td>Alcohol use before 15 years</td>
<td>1.47</td>
<td>0.76-2.91</td>
</tr>
<tr>
<td>Smoking before 15 years</td>
<td>1.34</td>
<td>0.52-3.34</td>
</tr>
<tr>
<td>Violent crime before 15 years</td>
<td>1.62</td>
<td>0.76-2.91</td>
</tr>
<tr>
<td>Sexual violence before 15 years</td>
<td>1.35</td>
<td>0.52-3.44</td>
</tr>
</tbody>
</table>

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*Table 3: Effects of child maltreatment and adverse experiences on adult sexual behaviour in a UK-based sample.*
precursor to equivalent behaviour in adulthood. However, it required specific situational or social environmental factors for its perpetuation into adulthood, in this case gang membership.

High-risk behaviours including anal sex, being paid for sex, sex with prostitutes and STIs were more strongly associated with child maltreatment experiences than coercive behaviour, particularly early sexual initiation and sexual abuse. These findings correspond to research showing children exposed to multiple forms of adverse childhood experiences are at greater risk of violent behaviour in adulthood and poor mental health outcomes. These include post-traumatic stress disorder, psychotic disorders, anxiety and mood disorders, and externalising disorders associated with violence, including conduct disorder, ASPD, drug and alcohol misuse. They also correspond to specific associations between childhood sexual abuse and perpetration of adult sexual violence.29

Can associations with sexual violence be explained by non-sexual violence and psychopathology?

Because antisocial men and gang members were significantly more likely to show positive attitudes towards other violence, diagnoses of psychiatric morbidity and addictions, we investigated whether these factors explained their increased sexual violence and risk-taking. However, none of these explained the high levels of stalking, problem pornography use, anal sex, sex with prostitutes or multiple partners in the same encounter. This suggested these behaviours were either explained by other, unmeasured variables in adulthood or were more strongly associated with their earlier childhood maltreatment. However, the combination of positive attitudes towards violence, psychiatric morbidity and addictions did explain associations between gang membership and frequent attendance at strip/lap dancing clubs, partying and risk factors including infrequent use of contraceptives, being paid for sex, STIs and multiple sexual partners. The same combination of factors accounted for coercive sexual behaviour among the antisocial men group but not gang members, where other unmeasured factors or the persistence of early-onset sexually coercive behaviour were more important.

Limitations

Our survey had several limitations, including the definition used to determine gang membership. However, there is no consensus about definition because gang structures have considerable heterogeneity. Nevertheless, we included three of the five UK criminal justice agency criteria.19

Quota sampling is the most commonly used non-probability sampling procedure in marketing research. Quota samples are collected to reflect proportions in the various subgroups or strata of the population of interest and the method is particularly useful when investigating hard-to-reach subgroups of the population and those who are likely to have a high rate of refusals to participate. Although our study samples matched the strata of the population of interest according to the national census (see supplementary material), we did not have a final figure for number of refusals to participate, as in a conventional survey, before the quotas in each subsample were met.

Although our study suggests violent and high-risk adult sexual behaviour had their origins in childhood, we did not have information on age when participants joined a gang. This meant that for some gang members, early sexual initiation and coercive sexual behaviour before age 15 could have been restricted to gang activity and not directly influenced by parental figures or early negative child care experiences. It is possible that some responders may overestimate some behaviours. However, self-report may have underestimated the true prevalence of their sexual behaviour because socially undesirable behaviours tend to be less frequently reported. We did not directly ask whether men had carried out acts of rape.

Diagnoses were also derived from self-report questionnaires and not confirmed by clinical interview, although self-report instruments can compare favourably with clinicians’ assessments. However, the community-based design and large sample size allowed us to examine associations between different categories of psychiatric morbidity and sexual behaviour, thus avoiding the selection bias associated with clinical samples. Furthermore, the sample size provided sufficient statistical power to test complex models and to control for confounding from demographic characteristics.

Implications

Street gangs should be recognised as a serious public health problem among socially excluded and minority youth in UK inner-urban areas characterised by socioeconomic deprivation, high crime and multiple social problems. Our findings explain the high level of sexual victimisation observed among gang-affiliated women in these areas.2–4 They suggest a pathway model from young men’s
early physical, sexual and emotional trauma to both sexual and non-
sexual victimisation of others, with precursors of their violence
appearing during childhood and persisting into adulthood, accom-
panied by multiple forms of risk-taking behaviour for STIs and HIV
(Fig. 1). In this proposed model, childhood maltreatment and
trauma increase the risk of both joining a gang and psychiatric mor-
bidity, including addictions in early adulthood, as well as the de-
velopment of conduct disorder. However, these pathways require
confirmation in longitudinal studies. Nevertheless, our model of
sexual violence corresponds to ‘cascading’ factors applied to non-
sexual violence in gangs,36 with trajectories from problem behaviour
in childhood, peer rejection and academic failure, subsequent
deviant peer clustering, with deviancy training and violence
during early adolescence, leading to more serious forms of violence
in late adolescence. In this context, gang membership provides a
peer group where all forms of violence are positively regarded that
shapes roles, norms and expectations surrounding sex and
sexual relationships, socialising expectations of masculine sexual
prowl and female availability, and providing role models of mas-
culinity.24–26 Gang membership provides potential victims for pre-
dation together with multiple opportunities and outlets for high-
risk behaviour for older members, some of whom may be predis-
posed by damaging effects of early trauma on their subsequent psy-
chosexual development and who sexually initiate new members.

The constellation of high-risk behaviours we have described,
including sex with multiple partners, sex with men, sex workers,
and more than one partner in the same encounter, anal sex, sex
usually when intoxicated, and failure to use condoms, are well-
recognised as increasing risks for STIs and HIV. This has received
recognition as a public health problem in the USA23,24 but has not
previously received attention in the UK. Our findings indicate
that consideration should be given to educational programmes for
gang members and affiliates, alerting them to these risks and to
encourage screening to improve prevention and to reduce risk of
infection being spread unknowingly within communities with
high levels of gang activity.

Multiple addictions, including alcohol, drugs, gambling,
viewing pornography, together with repetitive sexual behaviours
indicative of hypersexuality and compulsion, with reference for
forcing sex on non-consenting partners, may have determined per-

ductive indicative of hypersexuality and compulsion, with preference for
viewing pornography, together with repetitive sexual behaviours
high levels of gang activity.

Gangs in major UK cities have evolved since our survey with
– county lines – business model of drug sales and
supply from inner-urban areas where the markets have become
saturated to rural areas and coastal towns to reach a new client
base. Vulnerable children are targeted and groomed to distribute
drugs, together with vulnerable adults whose properties are taken
over to store, manufacture and sell drugs in these new locations (‘cuckooing’). In this context, girls are trafficked between gangs
and subjected to sexual violence. Vulnerable women with accom-
modation are targeted, particularly drug users, and a drug debt to
a gang will be repaid through prostitution.33

Sexual violence and gangs are not randomly distributed in a
population and an ecological model has been proposed that takes
into account the complex interplay of individual, relationship,
social, cultural and environmental factors that determine violence
with the aim of taking a preventive approach.34 In this context,
sexual violence and risk-taking should be considered components of
a closely aggregated group of health-related behaviours and psy-
chiatric morbidity among gang members that interact synergistic-
ally to exacerbate their negative effects on each other35 and that
may have underlying common causes. Many have their origins in
childhood trauma but are later bound together by being in a gang.