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Appendix E: Tabling of systematic review papers

Number	Paper code	Author(s), year of publication, study location	General overview	Study populations	Aims of the study	Methodology	Findings
1.	C5	Alleyne & Wood (2010)	Gang involvement: psychological and behavioural characteristics of gang members, peripheral youth and non-gang youth	N=798 London based 12-18 year old young people, mean age 14.3 years	An examination of gang members, peripheral youth and non-gang youth across measures of criminal activity, their perception of importance of status, their levels of moral disengagement, their perceptions of out-group threat and their attitudes toward authority.	Quantitative Cross-sectional Gang membership: questions designed for research based on Euro-gang definition	Gang members were more anti-authority than non-gang, and both gang and peripheral youth valued social status more than non-gang youth. Gang members were also more likely to blame their victims for their actions and use euphemisms to sanitise their behaviour than non-gang youth to displace responsibility
2.	C4	Alleyne & Wood (2011)	Gang Involvement: Social and Environmental Factors	Participants from across 5 London schools (gang and non-gang) N=798	This study examines some of the individual, social and environmental factors that differentiate gang-involved youth from non-gang youth in a British setting.	Quantitative Cross-sectional design Gang affiliation measure: Single-item self-report combined with Eurogang definition	Most significant risks were: parental management, deviant peer pressure, and commitment to school. Ethnicity and gender were not significant (showing a gender change in risk of gang affiliation). Ethnicity was representative of community demographics.
3.	C4	Alleyne & Wood (2013)	Gang-related crime: the social, psychological and behavioural correlates	N=798 London based 12-18 year old young people, mean age 14.3 years	Thus study examined the behavioural, social and psychological factors associated with gang-related crime.	Quantitative Cross-sectional Gang membership: questions designed for research based on Euro-gang definition	Gangs map out their territory with graffiti and intimidate others via threats. High levels of individual delinquency and the presence of neighbourhood gangs were significant predictors of gang-related crime. The perceived importance of social status, moral disengagement and anti-authority attitudes did not predict gang-related crime. Perceived importance of social status and high levels of moral disengagement predicted gang-related crime with anti-authority attitudes acting as a mediator.
4.	C6	Ang, Huan, Chua & Lim (2012)	Gang affiliation, aggressive, and violent offending in a sample of youth offenders	Case files of n=390 youth offenders between 16-18 years of age from Singapore.	Gang affiliation, aggression and violent offending were examined in case files of 390 offenders aged between 16-18 years.	Quantitative Cross-sectional Measures: none described	Young offenders who were gang members and those who were not gang members but exposed to friends in gangs had a significantly higher likelihood of violent offending compared with a reference group of youth offenders who had neither gang-affiliation nor friends in gangs. Non-gang affiliated youth with friends in gangs had a lower likelihood of violent offending than young offenders who were gang members.
5.	C5	Aryan, Jandial, Bennett, Masri, Lavine & Levy (2005)	Gunshot wounds to the head: Gang- and non-gang-related injuries and outcomes	N=349 gang and non-gang youth in LA	This study examined the differences between gang and non-gang-related incidents of penetrative missile injuries in	Quantitative Case-control study exploring retrospective and	Gang-related shooting slightly outnumbered non-gang-related incidents. Demographic analysis showed both a male and Hispanic predominance for both gang-

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					terms of demographics, motivation, intra-cranial pathology, transit time, injury time and clinical outcome.	prospective chart review Gang measure: no reporting of any measure to determine gang membership	and non-gang-related victims and significant differences in gender, race and age. Occipital entrance sites were more common in the gang-related vs temporal entrance sites in the non-gang-related. Mean transit time to the emergency department for gang-related shootings was less than non-gang-related shootings (24.4 vs 27.8 minutes). Most shooting incidents took place between 6 pm and 3 am. No difference between survival and outcome was noted between gang and non-gang victims.
6.	C2	Barnes, Beaver & Miller (2010)	Estimating the effect of gang membership on nonviolent and violent delinquency: A counterfactual analysis	Pre-existing data from the National Longitudinal Study of Adolescent Health (N= 478 gang members and N=478 non-gang members).	This study reconsiders the well-known link between gang membership and criminal involvement.	Quantitative cohort design utilising longitudinal data Gang affiliation measure: Self report in response to researcher single item question (recruitment into a gang in past 12 months)	While gang membership is a function of self-selection, selection effects alone do not account for the greater involvement in delinquency exhibited by gang members. Gang members maintained a greater involvement in both nonviolent and violent delinquency when measured cross-sectionally, but only violent delinquency when measured longitudinally.
7.	C2	Barnes, Boutwell, Fox (2012)	The effect of gang membership on victimization: A behavioural genetic explanation	Using data drawn from the National Longitudinal Study of Adolescent Health	The current study represents the first attempt to examine how genetic and environmental factors work in concert to influence gang membership, victimization, and the effect of gang membership on victimization experiences.	Quantitative Longitudinal Cohort study Gang measure: self-report – critiqued due to diffs determining present from past gang membership	The findings indicate that gang affiliation is influenced significantly by both genetic factors and environmental factors that are uniquely experienced by the individual. Controlling for heritable influences, gang membership increased the risk of victimization over time. The latter finding suggests that gang membership operates as a non shared environmental influence on victimization.
8.	C5	Baskin, Quintana & Slaten (2014)	Family belongingness, gang Friendships and Psychological Distress in Adolescent Achievement	N=310 7th graders from Florida	An investigation of connections among social, psychological, and academic functioning of ethnically diverse urban youth.	Quantitative Cross-sectional Gang-affiliation measure: unreported	Youth with lower levels of distress will be more able to benefit from positive family belongingness supporting their academic achievement, whereas those with higher levels of distress will be less able to benefit from the same support. With higher distress, the negative impact of gang friendship is more strongly related to academic outcomes. Interventions on psychological distress may reduce the negative effects of gang friendship.
9.	C1	Beaver, DeLisi, Vaughn & Barnes (2009)	Monoamine oxidase A genotype association	Data from the National Longitudinal Study of Adolescent health	An exploration of genetics of gang involvement ad weapon use	Quantitative	Male carriers of low MAOA activity alleles are at risk for becoming a gang member

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			with gang membership and weapon use	(1155 females and 1041 males)		Cohort study Longitudinal and predictive Measures: gang self-report	and, once a gang member, are at risk for using weapons in a fight.
10.	C6	Bennett & Holloway (2004)	Gang membership, drugs and crime in the UK	N=2,666 gang and non-gang members (17-30 years of age) from the New English and Welsh Arrestee Drug Abuse Monitoring programme	The paper reports findings generated from the New English and Welsh Arrestee Drug Abuse Monitoring programme on gang membership and its relation to crime and drug misuse.	Quantitative Cross-sectional Measures: self report for gang membership based on questions of affiliation and belonging to a gang	The paper concludes that the UK may be entering a new phase in the development of street crime among young people and argues that it is important to monitor this development for the purpose of policy and fundamental knowledge.
11.	C6	Biswas, Olate & Vaughn (2011)	Cross-national study of risky sexual behaviour among gang-involved youth in metropolitan Boston and San Salvador, El Salvador	Gang involved youth from Boston (n = 375) and San Salvador (n = 207)	A comparison between gang-involved and non gang-involved youth on key characteristics and assessed factors associated with risky sexual behaviours	Quantitative Cross-sectional using secondary data from cross sectional survey Measure of gang affiliation: self-report to two items asked by researcher	Medium to large effect-size differences were noted in future orientation, delinquency and gang-involvement attitudes. Gang-involvement and risky sexual behaviour were associated in this sample. Salvadoran youth differed significantly from those in Boston on key gang-related characteristics, rendering them even more vulnerable.
12.	C7	Bjerregaard (2002)	Self-definitions of gang membership and involvement in delinquent activities.	Pre-existing data from 1985: N= 1,663 men and women from 10 inner-city high schools in the U.S.	This research examines the construct validity of gang membership by examining the relationship between various methods of operationalizing gang membership and delinquent involvement.	Quantitative Cross-sectional design Gang-affiliation: self-report on two items by researcher	Individuals reporting membership in organized gangs were far more likely to report that their gangs possess the characteristics typically associated with traditional street gangs. Likewise, the respondent's self-identification had a strong impact on both the group's and the individual's criminal behaviour. Overwhelmingly, persons who considered themselves to be members of an organized gang were more apt to engage in all types of delinquent activities.
13.	C2	Bjerregaard (2010)	Gang membership and drug involvement: Untangling the complex relationship	National Longitudinal Survey of Youth 1997 (NLSY97; U.S. Bureau of Labor Statistics, 1997). The data used for this research include the 1997, 1998, and 1999 survey years when respondents were an average age of 14, 15, and 16 years, respectively.	This research attempts to establish the temporal ordering of these relationships while controlling for a variety of relevant variables and to determine whether the relationships between drug involvement and violence differ for gang members versus non gang members.	Quantitative Cohort study utilising longitudinal data Gang measure: self-report response to researcher questions	The findings indicate that gang membership is weakly associated with drug involvement, including both usage and sales. This involvement, however, does not appear to be related to assaults. Results suggest that gang membership is not determinative of drug involvement among a national random sample of youth.

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14.	C4	Bradshaw, Wasdorp, Goldweber & Johnson (2012)	Bullies, gangs, drugs, and school: Understanding the overlap and the role of ethnicity and urbanicity	N= 16,302 adolescents (50.3 % female, 62.2 % Caucasian, 37.8 % African American) enrolled in 52 US high schools.	The current study examined different subtypes of involvement in bullying—as primarily a victim, as primarily a bully, as both a victim and bully, and no involvement	Quantitative Cross-sectional design Gang affiliation measure: single item self-report question	Bullies and bully/victims were generally at greatest of risk of being involved in violence, engaging in multiple types of substance use, and having academic problems.
15.	C7	Brooks, Lee, Stover (2011)	HIV testing, perceived vulnerability and correlates of HIV sexual risk behaviours of Latino and African American young male gang members.	Data were collected from 249 gang members ages 18–26 years old (Latino and African American men) living in Los Angeles, California	This study examined HIV testing behaviours, perceived vulnerability to HIV, and correlates of sexual risk behaviours of young adult Latino and African American male gang members in Los Angeles, California.	Quantitative Cross-sectional design Gang Measure: unreported	The majority (59%) of gang members reported unprotected vaginal intercourse (UVI) in the past 12 months. Only one-third (33.2%) of gang members had ever been tested for HIV.
16.	C4	Brownfield (2003)	Differential Association and Gang Membership.	Pre-existing data (n=543) high school students in Canada	An exploration of differential association and gang membership and gang membership.	Quantitative cross sectional design Gang membership measure: Single item self report	Definitions favourable to law violations are significantly related to gang membership. Parental attachment is not a significant correlate of gang membership.
17.	C6	Brownfield (2012)	Gender and gang membership: Testing theories to account for different rates of participation.	Previously gathered data on N=521 Canadian participants	This paper explores the factors affecting gender differences in gang affiliation.	Quantitative Cross-sectional Gang affiliation: based on self –report associated factors (such as peer delinquency)	There is no significant difference between gender and gang relationship. Differential association and social control theory processes such as attachment and acquisition if deviant definitions at the individual level seem to mediate gender differences.
18.	C7	Brownfield & Thompson (2002)	Distinguishing the effects of peer delinquency and gang membership on self-reported delinquency.	Data taken from Seattle Youth Study / National Crime Survey (NCS) for 1973-1977 Unclear-cites Heindelang, 1981	An examination of the distinction between peer delinquency and gang membership.	Quantitative Cross-sectional Gang membership measured by: Single item self-report	Gang membership, peer delinquency, and self-reported delinquency do not form a single underlying variable or construct..
19.	C5	Brownfield, Sorenson & Thompson (2001)	Gang membership, race, and social class	Data from the Seattle Youth Study N=?	This article examines the extent to which gang membership, race, and social class affect a youth's chances of being arrested, independent of their self-reported behaviour.	Quantitative Cross-sectional Gang measure: subjective and self-report (would you be in what other people might call a gang?)	The odds of being arrested are roughly similar for gang and non-gang members, controlling for the nature and level of self-reported delinquency. Race and social class are more associated with risk of arrest. Being black and lower class specifically increases a youth's odds of being arrested independent of delinquency.
20.	C6	Cadwallader & Cairns (2002)	Developmental influences and gang awareness among African-American inner city youth.	Participants (n = 489) were African American boys and girls from the 1st, 4th, and 7th	This research aimed to clarify the correlates of gang awareness in inner city youth as a function of age, gender	Quantitative Cross-sectional design Gang affiliation measures: self-report	Girls' and boys' familiarity with local gangs increased with age and differed by peer group affiliation. The relationship of gang familiarity to teacher and self-ratings of aggression, popularity, and academic

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				grades in four inner city public schools.	and peer group affiliation. It is proposed that the influence and hegemony of street gangs is a distinguishing feature of inner city neighbourhoods, and that this influence is mediated by development.	based on frequency of report of gang names plus The Social Cognitive Interview, Interpersonal Competence Scale, Social Cognitive Interview and Social Cognitive Map (SCM) procedure-note this is for awareness not affiliation	competence changed with age. These findings support the proposition that neighbourhoods have nontrivial effects on social development, and these effects are likely to interact with developmental status and social affiliations.
21.	C6	Cartwright, Howard & Reuterman (1970)	Multivariate analysis of gang delinquency: III. Age and physique of gangs and clubs.	N=238 11-24 year olds (Colorado)	Gang members and comparison group are tested across different personality factors to assess which factors applied more to gang affiliated youth.	Quantitative Cross-sectional design Gang affiliation measure: Self-report (unclear)	Control group were more exuberant, realistic and assertive than gang members. Gang members showed more manic smartness, less self-realisation and there was no linear relationship overall between personality factors and gang affiliation.
22.	C6	Chu, Daffern, Thomas & Lim (2011)	Elucidating the treatment needs of gang-affiliated youth offenders.	N=165 gang and non gang-affiliated young offenders 12-18 year olds from Singapore	The study sought to elucidate the criminologic needs of gang and non gang-affiliated youth	Quantitative Case-control study with retrospective reporting Gang measures: self-report and criminal records	Results demonstrate that gang and non-gang affiliated young offenders had similar criminogenic need profiles except for in regard to peer delinquency
23.	C4	Coid, Ullrich, Keers, Bebbington, Destalova, Kallis, Yang, Reis, Jenkins & Donnelly, (2013)	Gang membership, violence and psychiatric morbidity	N=4, n=664 men of 18-34 years of age in GB (over half of whom were gang involved and from areas of high violence	An investigation of associations between gang-membership, violent behaviour, psychiatric morbidity, and use of mental health services	Quantitative Cross-sectional Gang membership measured by: self-report of current gang membership based on items identified with gang membership	Gang members show inordinately high levels of psychiatric morbidity, placing a heavy burden on mental health services. Traumatization and fear of further violence, exceptionally prevalent in gang members, are associated with service use. Gang membership should be routinely assessed in individuals presenting to health care services in areas with high levels of violence and gang activity. Health care professionals may have an important role in promoting desistance from gang activity.
24.	C6	Corcoran, Washington & Meyers (2005)	The Impact of Gang Membership on Mental Health Symptoms, Behaviour Problems and Antisocial Criminality of Incarcerated Young Men.	N= 73 incarcerated young men in Oregon	This study examines whether gang members differ from nongang members on mental health symptoms, behaviour problems, and antisocial criminality	Quantitative Cross-sectional Gang affiliation measure: unclear	Gang members report more mental health symptoms, more external behaviour problems including delinquency and self-destructiveness and thought problems than non-gang members. Gang members also reported more antisocial criminality 12 months prior to incarceration. When mental health symptoms were statistically controlled, gang members were indistinguishable from non-gang members on all variables except for antisocial

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							behaviours. Taken together, these results suggest the importance of mental health services in a release plan
25.	C3	Craig, Vitaro, Gagnon, Tremblay (2002)	The road to gang membership: Characteristics of male gang and non-gang members from ages 10 to 14.	N=142 gang and non gang affiliated boys who had a complete data set at ages 11, 12, 13, and 14(Quebec).	This study examined the stability of belonging to a gang in early adolescence, the behaviour profiles, family characteristics, and friendships of non gang and gang members.	Quantitative Cohort study design utilising longitudinal data Gang affiliation measure: unclear	Stable gang members had significantly higher scores than non-gang members on teacher ratings of fighting behaviour, hyperactivity, inattention and oppositional behaviour, and self-reported delinquent activities (drug and alcohol use, stealing and vandalism). Peers rated gang members as more aggressive than non-gang members.
26.	C6	Curry & Spergal (1992)	Gang involvement and delinquency among Hispanic and African-American adolescent males.	N=139 Hispanic and n=300 African American males 6 th -8 th form in Chicago (gang and non-gang affiliation).	An investigation into the relationship between gang-involvement and delinquency.	Quantitative Rasch modelling Cross sectional Gang affiliation measured by: self-report survey and police intelligence	Gang involvement is an effective indicator of delinquency for these youth, but the reverse is not true.
27.	C6	Danyko, Arlia & Martinez (2002)	Historical risk factors associated with gang affiliation in a residential treatment facility: A case/control study.	N=61 (31 male, 30 female) US residents were studied. The age range of the subjects in the study was 12 to 19 years	The objective of the present study was to investigate differences between gang and non-gang affiliated adolescents who reside in residential treatment.	Quantitative Case-control design Gang affiliation measure: based on five indicators designed by researchers	Historical data from the subjects charts revealed significant differences between the two groups in terms of foster care placement early in life, substance abuse history, mother's substance abuse history, history of abuse, and psychological diagnosis. In line with hypothesis 2, the gang-involved group had a history of at least one identified form of abuse and, possibly related, they were more likely to have a diagnostic history of Post Traumatic Stress Disorder (PTSD)
28.	C2	DeLisi, Barnes Beaver & Gibson (2009)	Delinquent gangs and adolescent victimization revisited: A propensity score matching approach	Data for this study were drawn from the National Longitudinal Study of Adolescent Health (n = 15,197)	The current study used propensity score matching (PSM) to evaluate the effects of gang membership on victimization at two time points using data from the National Longitudinal Study of Adolescent Health.	Quantitative Cohort study design utilising longitudinal data Gang membership measure: single item self-report question posed by researcher	The most antisocial youths and those with more delinquency victimization were more likely to join gangs, which supports the selection model. In support of the enhancement model, the authors found that after controlling for selection effects using PSM, gang membership maintained a significant predictive relationship with victimization measured contemporaneously and longitudinally. Membership in a gang increases youths' chances of being victimized above and beyond personal characteristics, and the deleterious gang effect does not weaken over time.

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29.	C5	DeLisi, Spruill, Vaughn & Trulson (2013)	Do gang members commit abnormal homicide?	Pre-existing data (N=618) male convicted and incarcerated homicide offenders spanning the Midwestern, Southern, and Atlantic coast areas of the United States.	The current study empirically examined gang status and diverse forms of homicide perpetration.	Quantitative Cross-sectional Gang affiliation measure: criminal record/ tattoos	Gang-involved offenders were nearly three times as likely to commit a normal homicide. However, gang members were 64 % less likely to perpetrate multiple-victim murder. Gang status reduced the likelihood of sexual homicide by 75 % and reduced the likelihood of abduction homicide by 56 %. These findings present an anomaly in the gang-homicide literature.
30.	C2	Dishion, Nelson & Yasui (2005)	Predicting Early Adolescent Gang Involvement From Middle School Adaptation.	The sample consisted of 714 European American (EA) and African American (AA) boys and girls.	This study examined the role of adaptation in the first year of middle school (Grade 6, age 11) to affiliation with gangs by the last year of middle school (Grade 8, age 13).	Quantitative Cohort (utilising longitudinal data) Gang-affiliation measure: Five indices and multiple perspectives (eg peer/ school counsellor)	Unexpectedly, self-report measures of gang involvement did not correlate highly with peer and school staff reports. Findings also suggest that the youth level of problem behaviour and the school ecology (e.g., peer rejection, school failure) require attention in the design of interventions to prevent the formation of gangs among high-risk young adolescents.
31.	C1	Dmitrieva, Steinberg, Piquero & Fagan (2014)	Predictors and Consequences of Gang Membership: Comparing Gang members, Gang Leaders, and Non-Gang Affiliated Adjudicated Youth	N=1,170 adjudicated youth (US)	The study examined how low self-esteem, psychopathy and psychosocial maturity relate to differing gang membership levels.	Quantitative Cohort study design utilising longitudinal data Gang affiliation measure: three item self-report by researchers	Low temperance, perspective and responsibility predicted low-level gang membership. Low self-esteem predicted gang membership at a younger age and low-level gang membership. High self-esteem and grandiose-manipulation traits alongside lower temperance predicted gang leadership during early adulthood. Psychopathic traits increased across both groups over time.
32.	C7	Dukes, Martinez & Stein (1997)	Precursors and consequences of membership in youth gangs.	N=11,000 secondary school students from Colorado	An exploration in to the factors leading to gang membership from selection and facilitation models.	Quantitative Cross-sectional design Gang affiliation: single item self-report for membership alongside single item self-report if degree of affiliation	Low self-esteem, perceived academic ability, psychosocial health and bonds with institutions appeared to precede gang membership. Greater drug use, delinquency, fear of harm and being armed were both precursors and consequences of gang membership. Lack of social integration was an important mediator of gang affiliation.
33.	C2	Dupéré, Lacourse, Wilms, Vitaro & Tremblay (2007)	Affiliation to youth gangs during adolescence: The interaction between childhood psychopathic tendencies and neighbourhood disadvantage.	N= 3,522 adolescents from a nationally representative, prospective sample of Canadian youth.	An exploration into whether a combination of individual propensity and facilitating neighbourhood conditions amplifies the probabilities of youth gang affiliation.	Quantitative Cohort study design utilising longitudinal data Gang affiliation measure: single item self-report	Neighbourhood residential instability, but not neighbourhood concentrated economic disadvantage, interacted with individual propensity to predict youth gang membership. Adolescents with pre-existing psychopathic tendencies appeared especially vulnerable, mainly if they were raised in residentially unstable neighbourhoods.
34.	C5	Egan & Beadman (2011)	Personality and gang embeddedness.	N= 152 remand and sentenced	Constructs derived from a variety of personality measures	Quantitative Cross-sectional design	Path analysis showed the antisocial personality dimension predicted previous

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				participants; incarcerated within a general prison in London, UK who indicated their gang embeddedness as youths, prior to custody, within prison, and as an intent following release.	and constructs were used to predict overall reported gang embeddedness.	Gang affiliation measure: Four question self report scale devised by the researchers	convictions and degree of gang embeddedness, whereas resilience did not. The direct and indirect effects of the composite antisocial personality dimension explained 50% of the overall observed variance in gang embeddedness. We suggest that gang membership may reflect normal assortative processes within the members of such groups.
35.	C2	Eitle, Gunkel & van Gundy (2004)	Risk factors predicting gang membership	Prospective and retrospective data of N=1, 286 South Florida boys	Examination of risk factors that predict gang membership among a cohort of South Florida boys.	Quantitative Prospective longitudinal study Cohort study Measured gang affiliation and gang association by self report, and design of four questions, in addition, gang involvement was calculated by constructed self report questions Other measures were based on adaptation of other models or questioning by researcher.	The association between cumulative stress exposure was mediated by race, family, financial problems and preteen cumulative exposure to stressful life events which were all seen to predict association / behaviour and involvement with gangs.
36.	C2	Esbensen & Carson (2012)	Who are the gangsters?: An examination of the age, race/ethnicity, sex, and immigration status of self-reported gang members in a seven-city study of American youth.	N= 31 schools in 7 US cities data collected as part of the second National Evaluation of the Gang Resistance Education and Training (G.R.E.A.T.)	The current article replicates Esbensen and Winfree's research by examining the sex and racial/ethnic characteristics of self-reported gang members in a seven city study. It also looks at other differentiating factors between gang and non-gang.	Quantitative Longitudinal Cohort study Measures for gang affiliation: based on self-nomination	Ethnicity did not seem significant over time. Immigrant status was not a predictor. As Esbensen and colleagues (2010, p. 86) concluded, "Gang membership appears to provide an equal opportunity for all."
37.	C5	Esbensen, Deschenes & Winfree (1999)	Differences between Gang Girls and Gang Boys; Results from a multi-site survey	5.935 8 th grade students (U.S.)	To explore differences in male and female gang membership.	Mixed methods but scored as quantitative Cross-sectional analysis Gang membership measure: two self-report questions as put forward by researcher	Gang affiliated girls reported more social isolation and lower self-esteem than gang-affiliated boys. More girls were gang affiliated than anticipated

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38.	C5	Esbensen, Peterson, Taylor & Freng (2009)	Similarities and differences in risk factors for violent offending and gang membership.	5,395 8th grade students in 11 cities across the United States	In this article the authors explore the effects of cumulative risk, including risk in multiple domains, on youth violence and gang membership and to what extent the patterns are similar or different for youth violence and gang membership. They additionally investigate the extent to which risk factors exert independent effects when other factors are controlled in multivariate analyses, and whether the risk factors for youth violence similar to or different from those for gang membership?	Quantitative Cross-sectional design Measure for gang affiliation: self-report two item question asked by researcher	<p>A key 'tipping point' is found at seven risk factors; that is, the odds of engaging in either violence or gang membership are twice as great for youths with seven compared with six risk factors; other tipping points are found at 12 and 14 risk factors, respectively, for violence and gang involvement. Possessing risk factors in multiple, as opposed to no or just one domain, also dramatically increases odds of involvement in both forms of violence, although, again, more so for violence than for gang membership.</p> <p>Peer factors appear to be particularly important, with five of six increasing odds of violence and three increasing odds of gang involvement.</p> <p>Unique predictors of serious violence — or, those factors that are predictive only of violence but not of gang membership — are impulsivity, risk-seeking tendencies, few conventional peers, and unsupervised, unstructured socialising with peers. Consistent with other research (e.g., Hill et al., 1999; see also Klein & Maxson, 2006).</p> <p>Risk factors associated with gang membership are the same as those for violent offending. It is the accumulation of these risk factors that leads youths to become gang involved: our analyses demonstrate that a greater number of risk factors is required to achieve the same odds of gang membership as of violent offending; that is, it takes a greater push for youths to become gang-involved than violence-involved.</p>
39.	C5	Estrada, Gilreath, Astor & Benbenishty (2013)	Gang membership of California middle school students: Behaviours and attitudes as mediators of school violence.	The dataset was collected in the 2005–2006 and 2006–2007 academic school years using the ongoing large-scale California Healthy Kids Survey conducted by West Ed for the State of	This study utilizes a state-wide representative sample of Latino, Black and White seventh graders from California to examine a theoretical model of how school risk (e.g. truancy, school substance use and risky peer approval) and protective (e.g. connectedness, support and	Quantitative Cross-sectional design Gang measure: single item self-report	The findings indicate that school risk behaviours and attitudes mediate the association between gang membership and school violence behaviours. Although the direct negative association between gang membership and school violence perpetration is weak, the positive indirect effect mediated by school risks behaviours and attitudes is strong.

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				California (N=272, 836 high school students in California).	safety) behaviours and attitudes mediate the effects of gang membership on school violence behaviours.		This indicates that when gang members engage in school risk behaviours, they are much more likely to be school violence perpetrators.
40.	C6	Evans, Albans, Macari & Mason (1996)	Suicide ideation, attempts and abuse among incarcerated gang and non-gang delinquents.	N=334 males and N=61 females incarcerated in Nevada. Half were gang members and other half were non gang members.	Exploration of the links between gang affiliation, abuse and suicidal ideation.	Quantitative Cross-sectional (case-control) Gang affiliation measure: Three item self-report by researchers	Gang members reported less suicidal ideation & attempted suicide than non gang members but this increased if they had been exposed to sexual abuse.
41.	C2	Evans, Fitzgerald, Weigel & Chvilicek (1999)	Are rural gang members similar to their urban peers? Implications for rural communities	2,183 7 th -12 th grade Nevada students	To explore whether there were differences between rural and urban students in regard to gang affiliation.	Quantitative Longitudinal data and uses an ecological analytic model Cohort study Measures: self report gang membership	No differences between pressure to join gangs. Urban students significantly more likely to report having peers in gangs, being threatened by gangs and had significantly heightened concerns for personal safety.
42.	C7	Facundo, F. R. G., & Pedrão, L. J. (2008)	Personal and interpersonal risk factors in the consumption of illicit drugs by marginal adolescents and young people from juvenile gangs	175 marginal adolescents who belong to juvenile gangs in Mexico.	Analysis of the effect of personal and interpersonal risk factors of drug consumption in young people who belong to juvenile gangs in Mexico.	Quantitative Descriptive correlational study Measures: not gang specific measures but general self-report	Personal factors strongly relate to drug use. Highest correlating factors were gender, age and mental health problems. Interpersonal factors, such as relationships with delinquent peers and inappropriate relationships with parents, also showed an effect, albeit slightly weaker
43.	C5	Farmer & Hairston (2013)	Predictors of gang membership: variations across grade level	A secondary data analysis of N=19,079 US students	An examination of the predictors of gang membership for adolescents in Grades 6-12.	Quantitative Cross-sectional design Gang affiliation measures: self-report despite critique within paper as reliant on secondary data	6 th -8 th graders had the most risk factors 9 th -12 th graders had the least risk factors Individual-level risk factors were most prevalent and some of these were consistent across grade level - being male, having a parent or close family member die within the last year. Being suspended from school, having low self-esteem, receiving free lunch, being rejected by peers, perceiving neighbourhood as unsafe, and having to repeat a grade.

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44.	C6	Florian-Lacy, Jefferson & Fleming (2002)	The relationship of gang membership to self-esteem, family relations, and learning disabilities.	The population consisted of 205 high school students between the ages of 14 to 19, in Southeast Texas (gang and non-gang affiliated).	An investigation to learn more about the social and personal disabilities of individuals with differing levels of gang membership,	Quantitative Cross-sectional Gang affiliation measure: Gang Membership Inventory (GMI)	The results indicated that youths with high gang membership exhibited: (1) significantly lower self-esteem scores; (2) significantly lower family relationship scores; but (3) no increased incidence of learning disabilities.
45.	C6	Freng, Davis, McCord & Roussell (2012)	The New American Gang: Gangs, in Indian Country	N=106 6 th -12 th graders from an American Indian reservation.	An overview of the characteristics of American Indian gang members and gangs from a Western American Indian reservation community and risk factors that differentiate those in gangs in tribal communities from those not in gangs in tribal communities.	Quantitative Current self report (t-test comparison between gang and non-gang). Gang membership measures: self report	Gang and non-gang members did not differ on cultural identity levels, or social isolation. Non gang members demonstrated higher guilt levels. Gang members reported significantly less parental monitoring and higher levels of perceived parental deviance.
46.	C5	Friedman, Mann & Friedman (1975)	A profile of juvenile street gang members.	N=536 15-18 year olds gang and non-gang affiliated	This study was designed to generate a profile of Philadelphia gang-affiliated youth	Quantitative Cross sectional Gang affiliation measure: self-report based on researcher devised questionnaire	High proclivity to violence was the most predictive factor. Companionship, excitement, heterosexual contact and protection were cited as the next risk areas as benefits seen of gag membership by the group. Defiance of parents was next most significant, and attacks (verbal and physical against parents was high-mostly aimed at fathers). Parental defiance was highly associated with premeditated violence and aggression. Gang membership enhances self-esteem (anti-hero) and poor mother-son relationships were noted. Lower socioeconomic status was a risk and gang membership was seen as a way to get needs met and engage in activities. Gang members additionally had more unrealistic expectations of success, but less opportunity to be successful through traditional means.
47.	C2	Gatti, Tremblay, Vitaro & McDuff (2005)	Youth gangs, delinquency and drug use: a test of the selection, facilitation, and enhancement hypotheses	N=756 boys Kindergarten-17 years of age, from disadvantaged areas of Montreal	An attempt to investigate the validity of various hypotheses in relation to models of gang membership.	Quantitative Cross-sectional design utilising longitudinal data for correlation analysis)	Gang members displayed far higher rates of delinquent behaviour and drug use than non-gang members. The results support the facilitation model for transient gang and the enhancement model for stable gang members for person and property offences. The association between gang membership and delinquency persisted after introducing

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						Gang affiliation measure: single item self report	the control variables. Additional analyses showed that the effect associated with belonging to a gang was beyond that of simply having delinquent friends.
48.	C1	Gilman, Hill, Hawkins, Howell & Kosterman (2014)	The Development Dynamics of Joining a Gang in Adolescence: Patterns and Predictors of Gang Membership	Seattle Social Development Project (n=808)	The study examines predictors of joining a gang, tests effects of these on age and whether this differs by gender.	Quantitative Cohort study from longitudinal data Gang affiliation measure: Single-item self-report	Risks include: living with a gang member, living in an anti-social neighbourhood, and recent anti-social peer influence.
49.	C5	Griffin & Hepburn (2006)	The effect on gang affiliation on violent misconduct among inmates during the early years of confinement	N=2, 158 male inmates confined to a south-western state prison system for at least three years	Exploration of the predictors of violent misconduct in the first few months and the effects of gang affiliation in this relationship.	Quantitative Cross sectional analysis Gang membership measured by: police intelligence	Gang affiliation has an effect on violent misconduct among inmates beyond the individual risk factors generally attributed to youth and prior criminal history.
50.	C6	Harper, Davidson & Hosek (2008)	Influence of gang membership on negative affect, substance use, and antisocial behaviour among homeless African American male youth	N=69 homeless African American young men were recruited from community agencies	The current study examined differences between gang-involved and non-gang-involved homeless African American male youth with regard to negative affect, substance use, and antisocial/violent behaviour.	Quantitative Case-control Gang measure: questionnaire designed as part of research	Overall, gang members reported higher rates of negative mental and physical health outcomes than did non-gang members, with current gang members reporting higher levels of depression and anxiety, greater levels of antisocial and violent behaviour, and higher levels of lifetime alcohol and marijuana use. Greater levels of gang involvement were associated with more frequent lifetime use of alcohol and marijuana and higher levels of participation in violent behaviours.
51.	C5	Hermann, McWhirter & Sipsas-Herrmann (1997)	The relationship between dimensional self-concept and juvenile gang involvement: Implications for prevention, intervention, and court referred diversion programs.	N=427 fifth-, sixth- and eighth grade students from a south western US neighbourhood.	In this investigation we assessed 427 youths from an area with considerable gang activity to determine the way in which self-concept is related to gang involvement, and to assess how gang involvement fluctuates as a function of gender and grade level.	Quantitative Cross-sectional design Gang affiliation measure: Gang membership inventory used (and cited)	Males were found to be significantly more gang involved than females, but no differences were found by grade level (although a significant gender by grade interaction was present).
52.	C3	Hill, Howell, Hawkins & Battin-Pearson (1999)	Childhood risk factors for adolescent gang membership	Longitudinal data from the Seattle Social Development Project (n=808) 10-18 year old, ethnically diverse gender balanced sample.	Detailed examination of risk for gang membership in 10-12 year olds	Quantitative Longitudinal and predictive Cohort study	Neighbourhood, family, school, peer, and individual factors significantly predicted joining a gang in adolescence and youths exposed to multiple risk factors were much more likely to join a gang.

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						Measures: gang self-report	
53.	C5	Hope & Damphousse (2002)	Applying self-control theory to gang membership in a non-urban setting.	N=1,139 junior high and high school students	A exploration of the characteristics of gang members and the relationship between gang membership and delinquency using self-control theory	Quantitative Cross-sectional Gang membership measure: single self-report item	Gang members are more likely to be non-white, lower social class, male, from broken homes, and more involved in delinquent behaviour. Self-control was a strong predictor of gang membership, and appears to be in place prior to gang membership and remaining stable after gang membership.
	C5	Kakar (2005)	Gang membership, delinquent friends and criminal family members: Determining the connections.	N=91 US gang members (18-20 years)	An exploration into the connections between gang membership, familial gang involvement and peer delinquency.	Quantitative Cross-sectional Gang membership: measured by single item question and then follow up specific questions selected by researcher (in line with Klein, 1995)	Gang membership was found to independently affect delinquency beyond the effects of having delinquent friends and criminal family members.
55.	C6	Kakar (2008)	Gang affiliation and negative perceptions about authority, law enforcement, and laws: Is gang affiliation a precursor to becoming a threat to homeland security and terrorism?	N= 201 then split in to three groups (non-gang/ gang affiliated/ gang members) from the Southeaster region of the United States.	This study explored the connections between gang affiliation and negative perceptions about authority, law enforcement, and laws.	Quantitative Cross-sectional design Gang membership measure: Set of self-report questions set by researcher	Gang members had more negative perceptions about authority law enforcement and laws and are more enthusiastic about engaging in illegal activities. They are more likely to justify terrorist acts than non gang-affiliated youth, however, gang membership was not found to independently affect justification for terrorist acts.
56.	C4	Katz, Webb, Fox & Schaffer (2011)	Understanding the relationship between violent victimization and gang membership	N= 909 recently booked juvenile arrestees who were interviewed as part of the Arizona Arrestee Drug Abuse Monitoring (ADAM) program	The current study examines three hypotheses: (1) gang involvement and involvement in other risky lifestyles is related to violent victimization, (2) involvement in gang crime is associated with violent victimization, and (3) the presence of rival gangs is related to violent victimization.	Quantitative Design: cross sectional analysis employing modification of the Poisson based regression model for analysis Gang measure: police intelligence	Our findings indicated that prevalence of violent victimization was highest among gang members, followed by former gang members, gang associates, and non-gang members. After controlling for involvement in gang crime, however, gang membership per se did not significantly influence the juveniles' risk of serious violent victimization.
57.	C5	King, Voisin & DiClemente (2013)	Gang norms and risky sex among adolescents with a history of detention.	N=136 adolescent detainees who reported gang involvement from the U.S.	This paper aimed to explore whether it is not just gang membership but gang norms that are associated with risky sex.	Quantitative Cross sectional Gang affiliation measure: self report to several items outlined by researcher	Results suggest that the norms present within gangs infer added sexual risks.

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58.	C6	Kissner & Pyrooz (2009)	Self-control, differential association and gang membership	N=200 jail inmates housed in a large Californian city	This research extends the literature on the self-control/ gang membership association	Quantitative Cross-sectional Measures for gang affiliation: self-nomination/ reporting to current and/ or former involvement in gangs	The results indicate the insignificance of self-control upon controlling for a series of differential association measures.
59.	C2	Krohn, Ward, Thornberry, Lizotte & Chu (2011)	The cascading effects of adolescent gang involvement across the life course.	Previous data set (N= 1,000) adolescents from 14 to 31 years of age from male participants in the Rochester Youth Development Study	Drawing on the life-course perspective, this study argues that gang involvement will lead to precocious transitions that, in turn, will have adverse consequences on the fulfilment of adulthood roles and statuses in the economic and family spheres. Moreover, problems fulfilling these conventional roles are hypothesized then to lead to sustained involvement in criminal behaviour in adulthood.	Quantitative Cohort study design utilising longitudinal data Gang affiliation measure: Self-report (specific questions unclear)	Gang involvement leads to an increase in the number of precocious transitions experienced that result in both economic hardship and family problems in adulthood. These failures in the economic and family realms, in turn, contribute to involvement in street crime and/or arrest in adulthood.
60.	C5	Lachman, Roman & Cahill (2013)	Youth motivations for gang involvement	Network data from 303 youths self-identifying as group members from Montgomery County and Washington DC	An exploration of whether the difference between delinquent and non-delinquent group members	Quantitative Cross-sectional design Gang affiliation measure: Self-report on three items, then collapsed into a single item	Youths who join a group for instrumental purposes exhibit more delinquent behaviour than those who don't. Youth who join groups for a sense of belonging have a weaker relationship to delinquency. Specific reasons for joining groups could predict levels of delinquency performed by the group.
61.	C1	Lahey, Gordon, Loeber, Stouthamer-Loeber & Farrington (1999)	A prospective study of predictors of first gang entry	N=347 7 th grade boys in an urban public US school (longitudinal data from PYS)	An exploration of the predictors of first entry gang involvement	Quantitative Cohort study Prospective study of first predictors Measures: self report	Among African American boys, first gang entry was predicted by conduct disorder behaviours and these behaviours increasing. During adolescence, having peer involved in gangs added an additional risk of gang membership. Family income and parental supervision also independently predicted gang entry, also the direction of this depended on the youth's age.
62.	C7	Larson & Busse (1998)	Specialist-level preparation in school violence and youth gang intervention.	Ninety specialist-level programs were included in the final study.	An exploration of the hypotheses that programs located in or near metropolitan	Quantitative Cross-sectional design	Results indicated the majority of programs provided substantial intervention training for more traditional behavioural

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					areas are more likely to offer training in school violence and gang interventions.	Gang affiliation measure: Unreported	concerns (e.g., ADHD, conduct problems). Training in school violence prevention and, in particular, youth gang prevention/intervention, were lower priorities for training. The hypothesis was not supported.
63.	C5	Li, Stanton, Pack, Harris, Cottrell & Burns (2002)	Risk and protective factors associated with gang involvement among urban African American adolescents	Data from N=349 urban African American youth (Eastern Metropolis)	An exploration of whether the differences in exposure, resilience and distress symptoms between gang members and non-members resulted from the risk behaviours in which youth participated or from the gang membership itself	Quantitative Retrospective reporting from current members Gang measures: self report based on recent involvement (past week/ month) also	There was evidence that gang membership itself may be associated with increased risk and ill effects on psychological well-being and that strong family involvement and resiliency are protective factors against gang involvement.
64.	C6	Liu & Fung (2005)	Gang Members' Social Network Composition and Psychological Well-Being: Extending Socio-emotional Selectivity Theory to the Study of Gang Involvement.	N=30 gang-affiliated and n=29 non gang-affiliated young people from Hong Kong	This study attempts to explain gang involvement in Hong Kong in light of socio-emotional selectivity theory	Quantitative Case-control Gang-affiliation measure: three part self-report based on gang activity(referenced Klein, 1971)	Gang members reported more limited time perspective and a higher percentage of emotionally close social partners, but among which fewer came from family or friends when compared to non gang-affiliated youth; suggesting the gang serves a social function.
65.	C5	Lurigio, Flexon & Greenleaf (2008)	Antecedents to gang membership: Attachments, beliefs, and street encounters with the police.	N=943 Chicago Public school students	This study explored gang members attitudes to the police, prosocial beliefs, and experiences with the police. It also explored the relationship between fear of the police and gang membership.	Quantitative Cross-sectional correlational study Gang membership measure: single item self report-are you in a gang?	Gang members were less concerned about teachers attitudes, and cutting school, but equally knew stealing was not acceptable. Gang members had more frequently been stopped and searched, were more fearful and had negative beliefs about the police. By being disrespectful and/ or aggressive, police are unwittingly strengthening gang affiliation and moving fringe members closer to the core. Gang attachments increase as perceived police disrespect increases.
66.	C6	Luyt & Foster (2001)	Hegemonic masculine conceptualisation in gang culture	N=316 gang and non gang-affiliated male participants, drawn from secondary schools within Cape Town	This research sought to investigate the relationship between gang processes and differing forms of masculine expression.	Mixed methods quantitative/ qualitative Cross-sectional Gang measure: none apparent/ unclear how they determined this	Participants from areas characterised by high gang activity were found to support hegemonic elements to a significantly greater extent.
67.	C6	Lyon & Hall (1992)	The family relations, peer relations, and criminal activities of Caucasian and	N=131 Caucasian and Hispanic-American male incarcerated men (gang and non-gang affiliated)	This paper explored the difference between gang members and anti-social delinquent youth in regard to	Quantitative Cross-sectional Gang affiliation: criteria from the Country Gang	Gang members demonstrated higher aggressive behaviour, less social maturity and increased drug use.

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			Hispanic-American gang members.		their familial relationships and other risk areas.	Violence Support Unit and self-report	
68.	C6	McDaniel (2012)	Risk and protective factors associated with gang affiliation among high-risk youth and the role for public health	N=4131 youths in grades 7, 9, 11 and 12 in a high-risk urban school in the USA	To identify risk and protective factors to provide more direction for gang violence prevention strategies	Quantitative cross sectional Gang measures: self report	Gang affiliation was positively associated with engaging in any delinquent behaviours, frequent alcohol use, and frequent drug use. However, gang affiliation was negatively associated with moderate levels of parental monitoring and coping skills.
69.	C5	Melde & Esbensen (2011)	Gang membership as a turning point in the life course	N=1,400 youth	Employing a life-course perspective, we propose that gang membership can be conceptualized as a turning point in the lives of youth and is thus associated with changes in emotions, attitudes, and routine activities, which, in turn, increase illegal activity.	Quantitative Prospective data Measures: Self report and some retrospective reporting	Findings suggest that the onset of gang membership is associated with a substantial change in emotions, attitudes, and social controls conducive to delinquency and partially mediate the impact of gang membership on delinquent activity. Desistance from gangs, however, was not associated with similar systematic changes in these constructs, including delinquent involvement.
70.	C2	Melde, Diem & Drake (2012)	Identifying correlates of stable gang membership	Panel data from the national evaluation of the Gang Resistance Education and Training Program using N=140 self-reported gang members in the US	An examination of whether features of youth gangs, the reasons youth provide for joining youth gangs and the respondent's place in the gang, along with involvement in violent behaviours after onset of gang membership are systematically associated with the length of gang careers	Quantitative Prospective and longitudinal Cohort study Gang affiliation measured by: self report (mentions Esbensen et al., 2001 validating this)	Joining gangs for protection, increased victimisation after initial gang involvement and greater involvement in violent delinquency are significantly associated with stable gang membership. Joining a gang for financial reasons was associated in desisting within one year.
71.	C5	Ngai, Cheung, and Ngai (2007)	Cognitive and social influences on gang involvement among delinquents in three Chinese cities.	N=229 delinquent youths in Hong Kong, n=312 youth from Guangzhou & n=297 youth from Shanghai	An attempt to ascertain risk or protective factors of gang involvement among Chinese youth.	Quantitative Case control Measure for gang affiliation: single item self-report (citing Yoder, 2003)	Essentially, expected and prior gang involvements were highest in Hong Kong. On the other hand, Hong Kong was the lowest on the youths' moral belief, parental control, attachment to teachers, theorizing about social problems, and friends' moral belief.
72.	C6	Olate, Salas-wright & Vaughn (2012)	Predicting violence and delinquency among high risk youth and youth gang members in San Salvador (El Salvador)	N=174 high risk youth and youth gang members (13-24) in El Salvador	An examination of the predictive power of risk factors in a population of high risk and gang involved youth from El Salvador	Quantitative Cross-sectional Measure of gang affiliation: unclear Measures: none needed for gang affiliation-others were evidence based where	Low future orientation, low empathy, educational difficulties, school expulsions, delinquent peers, gang membership and low social support were found to be significant risk factors of violence and delinquency

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						possible otherwise current or retrospective self report	
73.	C6	Palmer & Tilley (1995)	"Sexual access to females as a motivation for joining gangs: An evolutionary approach." Response.	N=57 gang affiliated males and N=63 non gang affiliated males from Colorado	Review of anecdotal evidence (literature review) that sexual access to women is a motivation of joining gangs for males.	Quantitative Cross-sectional (case-control) design Gang affiliation measure: self-report (unreported questions)	Gang-affiliated males had more sexual partners than non-gang-affiliated males. Male gang members have greater status and are more attractive to women and also have more access to women.
74.	C4	Pederson (2014)	Gang joining in Denmark; prevalence and correlates of street gang membership	School based students (gang/non-gang) from Copenhagen N=1,886	This paper examines gang joining in socially disadvantaged residential neighbourhoods with gang presence.	Quantitative Cross-sectional design Gang affiliation measure: Eurogang criteria	Gang membership was predicted by: poor parental monitoring, weak pro-social values and high risk lifestyles.
75.	C7	Porter & Alison (2004)	Behavioural coherence in violent group activity: An interpersonal model of sexually violent gang behaviour.	N=223 cases of archival sources such as law reports.	This study provides an analysis of offender-victim interactions of sexual violence committed in gangs.	Quantitative Cross-sectional design Gang affiliation measure: unreported	The thematic concepts underpinning the interpersonal circumplex can be extended to group activity and sexually aggressive behaviour (see paper for fuller findings-extensive).
76.	C6	Porter & Alison (2005)	The Primacy of Decision-Action as an Influence Strategy of Violent Gang Leaders	N=37 offenders involved in different cases of group rape from Norway.	This study examined the relationship between decisions, actions, and orders as facets of influence, both over criminal events and group members, for 37 leaders of sexually violent gangs.	Quantitative Cross-sectional analysis Gang affiliation: determined from third party report in archival data	The results are discussed in terms of the psychological processes involved in influence strategies as effecting group activity.
77.	C1	Pyrooz (2014)	From your first cigarette to your last dyin' day: The patterning of gang membership in the life-course	National Longitudinal Survey of Youth (US) (subsample: n=8,984)	An examination of the contours of gang membership and their variability in the life-course.	Quantitative Cohort study design utilising longitudinal data Gang affiliation measure: self nomination	Identified risks for gang affiliation are: Being Black or Hispanic; male; from single parent family; parents with less education; poverty; socioeconomically disadvantaged neighbourhood; urban and aged 13-15 (although this paper highlights the variability and changeable nature of gang onset.
78.	C3	Pyrooz, Sweeten & Piquero (2013)	Continuity and change in gang membership and gang embeddedness.	N=226 adjudicated youth reporting gang membership at the baseline interview (14-17 yrs) from Philadelphia of Pheonix.	This study explores the relationship between embeddedness in a gang, a type of deviant network, and desistance from gang membership.	Quantitative Cohort study design utilising longitudinal data Gang measure: self nomination in response to researcher question	Gang embeddedness is associated with slowing the rate of desistance from gang membership over the full five-year study period. Gang members with low levels of embeddedness leave the gang quickly, crossing a 50 percent threshold in six months after the baseline interview, whereas high levels of embeddedness delays similar reductions until about two years. Males, Hispanics, and Blacks were

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							associated with greater continuity in gang membership as well as those with low self-control.
79.	C1	Pyrooz, & Sweeten (2015)	Gang Membership Between Ages 5 and 17 Years in the United States	Age-specific patterns of gang joining, participation, and leaving are estimated based on youths (n=7,335) self-reported gang membership at the baseline and eight subsequent interviews, which were combined with population age estimates from the 2010 U.S.	This study determined the frequency, prevalence, and turnover in gang membership between ages 5 and 17 years in the United States.	Quantitative Cohort study design utilising longitudinal data Gang affiliation measure: self-nomination	Youth gang members were disproportionately male, black, Hispanic, from single-parent households, and families living below the poverty level.
80.	C4	Rufino, Fox & Kercher (2011)	Gang membership and crime victimization among prison inmates	A sample of both gang (n=84) and non-gang (n=133) member prison inmates in Texas	The current study aimed to contribute to the emerging gang-victimization literature by examining: (1) characteristics of victimization for gang and non-gang members, (2) descriptors of gang membership comparing victimized to non-victimized gang members, and (3) characteristics of gang membership conduct comparing victimized to non-victimized gang members.	Quantitative Cross-sectional design with some retrospective reporting Gang measure: self report and police intelligence when gang affiliation denied	Results indicate that gang members were significantly more likely to be victimized compared to non-gang members and gang members were more likely to be alone and under the influence of substances when victimized.
81.	C5	Ryan, Miller-Loessi & Nieri (2007)	Relationships with adults as predictors of substance abuse, gang involvement, and threats to safety among disadvantaged urban high school adolescents	N=342 ethnically diverse high school students in an economically disadvantaged urban area in the south-western United States,	An examination of the protective effects of parental support, self-disclosure to parents, parent initiated monitoring of adolescent behaviour, and relationships with school personnel on substance abuse, gang involvement and perceived threats to safety at school.	Quantitative Cross-sectional study Measures: self report researcher led questions about gang involvement	The specific protective roles of parental support, self-disclosure to parents, parent initiated monitoring of adolescent behaviour, and relationships with school personnel related to problematic outcomes. Adolescent self-disclosure to parents was associated with less chance of substance use in those already involved with gangs.
82.	39	Salaam (2011)	Motivations for gang membership in Lagos, Nigeria: Challenge and Resilience	N=202 16-25 year old gang members from Lagos	A study of the main challenges that may influence unemployed youth's involvement in gang and criminal activity in Lagos: Nigeria	Mixed methods (quantitatively assigned) Cross sectional	Large families, rural/ urban migration, poverty and police corruption were cited as experiences youths had had prior to joining gangs. Joining gangs was an attempt to 'improve their lot in life'.

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						Measures: gang affiliation by limited self report	
83.	C6	Sirpal (2002)	Familial Criminality, Familial Drug Use, and Gang Membership: Youth Criminality, Drug Use, and Gang Membership--What Are the Connections?	N=201 (71 gang affiliated) 20-23 years U.S.	In an attempt to explore how familial criminality and familial drug and alcohol use affected children's decisions to use drugs and alcohol, join gangs, and/or get involved in delinquent behaviour.	Quantitative cross-sectional design Gang membership: measured by: parental 5 item self-report regarding their child	The analyses of this study indicated three major conclusions: (1) parental criminality and drug use enhances gang membership; (2) parental criminality and drug use enhanced gang membership and drug use; and (3) parental criminality and drug use enhanced gang membership, drug use, and delinquency. These conclusions indicate that family criminality significantly enhanced the probability of youth getting involved in criminal and gang activities.
84.	C1	Tapia (2011)	Gang membership and race as risk factors for juvenile arrest	Longitudinal data from the National Longitudinal Survey of Youth (12-14 years of age n= 3881) who were gang members and been frequently arrested.	This study addresses the link between gang membership and arrest frequency, exploring the gang X race interaction on those arrests	Quantitative Cohort study Measure of gang membership: NLSY97 criteria	Gang membership, racial minority status and their interaction, each increase the risk of arrest. Bias against these groups is more pronounced with less serious crimes. Black youth demonstrate the strongest effects.
85.	C5	Taylor, Freng, Esbensen & Peterson (2008)	Gang membership as a risk factor for serious violent victimisation: Importance of Lifestyles and Routine Activities	Pre-collected data of eighth grade youth attending public schools in the US (n=5,935)	An exploration of whether gang members' involvement in delinquent lifestyles and routine activities is a viable explanation for their increased risk of serious violent victimisation.	Quantitative Correlation study Gang measure: self-report on current status-single item question	Gang members were found to be at greater likelihood of being the victims of serious violence than non-gang members. Gang victims were not found to experience any different levels of violent victimisation than non-gang victims. Lifestyles and routine activities (particularly delinquency in terms of prevalence) substantially or completely mediated the relationship between gang membership and serious violent victimisation.
86.	C6	Taylor, Lerner, Eye, Bobek, Balsano, Dowling & Anderson (2003)	Positive individual and social behaviour among gang and non-gang African American male adolescents	N=45 African American adolescent gang male members from Detroit and 50 African American non-gang affiliated adolescents from the same community	To explore potential bases of development among gang youth.	Quantitative Case-control Measures: self report described and referenced	A quarter of the gang-affiliated group had more positive attribution scores than the average score in the non-gang group.
87.	C6	Taylor, Lerner, von Eye, Bobek, Balsano & Dowling (2004)	Internal and external developmental assets among African American male gang members.	N=45 African American adolescent male members of inner-city Detroit gangs and 50 African American adolescent males living in the same	The presence of individual and ecological assets for positive development was assessed.	Mixed methods (scored as quantitative) Cross sectional Gang affiliation scores: self-selection	The CBO youth had higher levels of both domains of assets. However, all gang members possessed at least one asset, and 15.6% of the gang youth had a total mean asset score that was above the total mean asset score of the CBO youth. The asset scores for the former group were

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				communities but involved in community-based organizations (CBOs)			significantly more likely to be correlated than was the case for the later group.
88.	C4	Thompson & Braaten-Antrim (1998)	Youth maltreatment and gang involvement.	N=2, 468 6 th -12 th grade US students	This research examines whether sexual or physical maltreatment raises the risk of gang involvement in secondary school.	Quantitative Cross-sectional design using survey data Gang affiliation: questionnaire with focus on fighting behaviour	Maltreatment increases the probability of gang involvement, independent of demographic factors. When youth are physically beaten or sexually molested, their odds of gang involvement increases by four times in comparison to control groups. Maltreatment is a higher risk indicator than levels of support, communication, educational interest and parental supervision.
89.	C5	Thornberry, Krohn, Lizotte & Chard-Wierschem (1993)	The role of juvenile gangs in facilitating delinquent behaviour.	Data from the Rochester Youth Development Study non gang-affiliated and gang-affiliated (n=3,372)	This study examines alternative explanations for why gang members are more likely to have higher rates of serious and violent crime than non gang members.	Quantitative Cross-sectional study utilising data from multi-wave panel data Gang measures: self-report	Gang members did not have higher rates of delinquent behaviour or drug use, before entering the gang than non gang-affiliated youth. However, upon entering the gang, these rates increased significantly. Delinquency rates dropped significantly once they left the gang.
90.	C6	Valdez, Kaplan & Codina (2000)	Psychopathy among Mexican American gang members: A comparative study.	A stratified proportional sample (N=150) people was drawn from the rosters of 26 gangs and administered a life history/intensive interview in San Antonio, Texas	The Hare Psychopathy Checklist–Screening Version was compared in a random sample of gang members with a matched community sample of violent non-gang members and samples of forensic and psychiatric patients and undergraduate students.	Quantitative Cross-sectional Gang affiliation measure: unclear	More than half of the gang sample were categorized as low, 44% as moderate, and only 4% as high on psychopathy. The gang members had higher scores on the total, affective, and behavioural scores than the non-gang members. High scores on adolescent antisocial behaviour, poor behavioural controls, and lack of remorse were found in both samples. Gang members scored twice as high as non-gang members on lack of empathy. Both samples were lower on psychopathy than the forensics and higher than psychiatric patients and undergraduates.
91.	C5	Valdez, Kaplan & Capeda (2006)	The Drugs-Violence Nexus Among Mexican-American Gang Members	N=160 male gang members sampled from 26 gangs in a Southwestern city (14-25).	This study examines hypotheses and builds models to help clarify the causal connections between drugs and violence outcomes among Mexican-American male gang members.	Quantitative Cross sectional analysis Measures: self report to specific measure but not referenced	The study concludes that drug use interacts with an individual gang member's risk for violence to affect violent behaviour outcomes. Furthermore, an important situational variable explaining violent outcomes among respondents scoring high on the violence risk measure was whether the rival was using drugs that resulted in high intoxication levels. The study concludes that drugs have a modulating and mediating influence on violence that is

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							conditioned by situational and individual level variables among members of these adolescent street gangs
92.	C6	Vasquez, Osman & Wood (2012)	Rumination and the Displacement of Aggression in United Kingdom Gang-Affiliated Youth	N=310 youth (185 males and 125 females) of 13-16 years from UK-gang and non gang affiliated	This study examined the tendency of UK youth to engage in displaced aggression (aggression aimed at undeserving targets) and examined the relationship among gang affiliation, ruminative thought, and aggression levels.	Quantitative Cross sectional design Measures used: gang measures consist of self-report on three pragmatic items.	The analyses found a three-way interaction between gang affiliation, rumination, and gender, such that males who were high in affiliation and rumination had the greatest tendency to displace aggression toward innocent others. Additionally, it was shown that rumination could account for a significant part of the correlation between gang affiliation and displaced aggression. Furthermore, regression analyses showed that even after controlling for trait aggression, anger, hostility, and irritability, rumination remained a significant predictor of displaced aggression.
93.	C5	Volkman, Fraga, Brodine, Iniguez-Stevens, Cepeda, Elder & Garfein (2013)	Drug-scene familiarity and exposure to gang violence among residents in a rural farming community in Baja California, Mexico	N=164 members of a single colonia. Median age of 27 years and 42% reported exposure to gang violence.	Assessment of exposure to gang violence and drug scene familiarity and other health indicators to identify familiarity and exposure to gang violence and the drug scene in a rural farming community in Mexico.	Quantitative Cross-sectional Measures: self-report but unclear	Exposure to gang violence was very common in this community and was associated with drug scene familiarity, suggesting a close relationship between drugs and gang violence in this rural community.
94.	C5	Walker-Barnes & Mason (2001)	Ethnic Differences in the Effect of Parenting on Gang Involvement and Gang Delinquency: A Longitudinal, Hierarchical Linear Modelling Perspective	N=300 ninth-grade students from an urban, south eastern city (US); (55% male), ranging in age from 13 to 18 years (M = 14.59, SD = .77).	This study examined the relative influence of peer and parenting behaviour on changes in adolescent gang involvement and gang-related delinquency	Quantitative Cross-sectional design Gang affiliation measured on the: Gang Membership Inventory	Adolescent gang involvement and gang-related delinquency were most strongly predicted by peer gang involvement and peer gang delinquency, respectively. Nevertheless, parenting behaviour continued to significantly predict change in both gang involvement and gang delinquency, even after controlling for peer behaviour. A significant interaction between parenting and ethnic and cultural heritage found the effect of parenting to be particularly salient for Black students, for whom higher levels of behavioural control and lower levels of lax parental control were related to better behavioural outcomes over time, whereas higher levels of psychological control predicted worse behavioural outcomes.
95.	C6	Wang (1994)	Pride and prejudice in high school gang members.	N=78 Caucasian and n=77 African American students (gang and	This study compared gang versus non gang high school students against a range of risk	Quantitative Case control design	Gang members could name fewer role models than non-gang members. Absence of positive parent and teacher roles were most predictive of gang membership

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				non-gang affiliated surrounding Florida)	factors to differentiate between groups.	Gang affiliation measures: unclear-report from staff?	between these two groups. Gang members had lower self-esteem than non gang-affiliated members, but were not more racist in their attitudes.
96.	C5	Webb, Katz & Decker (2006)	Assessing the Validity of Self-Reports by Gang Members: Results From the Arrestee Drug Abuse Monitoring Program.	Pre-existing data collected as part of the ADAM program (n=939) U.S.	This study examines disclosure rates of recent drug use by gang members in comparison with their urinalysis outcomes.	Quantitative Cross-sectional Gang affiliation measure: Self-report on four levels of gang association	Self-reports of illegal behaviour are a valid measurement technique in gang research.
97.	C2	Weerman, Lovegrove & Thornberry (2015)	Gang membership transition and its consequences: Exploring changes related to joining and leaving gangs in two countries	Rochester Youth Development Study & NSCR School study data (longitudinal) N=1385	This study explores how gang membership transitions among adolescents are related to changes with regard to peers, conventional social bonds and problem behaviour.	Quantitative Cohort study design utilising longitudinal data Gang-affiliation measure: Self-nomination	Gang joining is related to increasing exposure to negative peer influences, a weakening of conventional bonds and increasing levels of delinquency and substance use.
98.	C7	White & Mason (2006)	Youth Gangs and Youth Violence: Charting the Key Dimensions.	The sample comprised of pre-existing data from a selection of students from grades 10 through 12 (age range between 14 and 18 years of age) at seven schools throughout the Perth metropolitan area. N=743	This article examines issues surrounding the relationship between youth gangs and violent behaviour by considering the complex definitional and methodological problems surrounding these matters.	Quantitative Cross-sectional Gang affiliation measured by: two item self-report	We argue that most teenagers appear to engage in very similar types of activities, including violence. However, the intensity and dynamics of this behaviour varies greatly depending upon the type of group membership in question. Typologies are presented to show the differences in antisocial behaviour depending upon gang or non-gang membership.
99.	C5	Winfree Jr., Bernat, Esbensen (2001)	Hispanic and Anglo gang membership in two southwestern cities.	The National Evaluation of G.R.E.A.T. provided this study's data. . This study included over N=800 students from Phoenix, Arizona, and Las Cruces, New Mexico (n=unclear)	The current study presents a systematic comparison of the gang-related attitudes and behaviour of youths living in cities of dramatically differing size but subjected to similar cultural forces.	Quantitative Cross-sectional design Gang-affiliation measure: unclear	While statistical comparisons supported the position that the Phoenix children expressed higher levels of pro-gang attitudes, there did not appear to be significant differences in self-reported gang membership. Hispanic youths in both cities were not only more pro-gang in their attitudes and orientations, but they reported higher levels of gang membership. However, multivariate analyses reveal that a far more complex set of forces is at work.
100.	C5	Wood, Moir & James (2009)	Prisoners' gang-related activity: The importance of bullying and moral disengagement.	N=141 adult male prisoners from a category B (medium to high security) prison in	An investigation into the relationship between gang-related activity and effective management of	Quantitative Gang Affiliation measure: Prisoner Gang Activities	Prisoners most involved in gang-related activity were likely to have spent a longer total time in the prison system, be perpetrators of bullying and have high

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				the south-east of England	prisons in the UK. Focus on street gangs and subsequent moral attitudes within prison.	Questionnaire (Wood, 2002)	levels of moral disengagement. Findings also show that moral disengagement partially mediates the relationship between bullying and gang-related activity.
101.	C5	Yoder, Whitbeck & Hoyt (2003)	Gang involvement and membership among homeless and runaway youth.	N= 602 homeless and runaway youth in mid-western state.	The present study documented the extent of gang involvement and gang membership in homeless and runaway youth.	Quantitative Cross-sectional design Gang affiliation measure: self-report on four items identified by research team	Youth gang members and gang-involved youth reported more family legal problems, had been suspended from school more, ran away at a younger age, used more alcohol and drugs, were exposed to more deviant peers, and attempted suicide more than did non gang youth. In addition, youth gang members reported less parental monitoring, more severe abuse, more street victimization, and more deviant subsistence strategies than did either gang involved or non-involved youth.
102.	C3	Zhang, Welte & Wiczorek (1999)	Youth gangs, drug use, and delinquency	Data from the first two waves of the Buffalo Longitudinal Survey of Young Men (n=625 males aged sixteen to nineteen in the area surrounding Buffalo, New York).	This study addressed the relationship among youth gangs, drug use, and delinquency by focusing on: (1) the effects of prior drug use and delinquency on gang membership; (2) the effect of gang membership on drug use and delinquency; and (3) the interaction effects of prior drug use and delinquency with gang membership on drug use and delinquency.	Quantitative Design: Cohort study (correlation study) utilising longitudinal data Gang membership Measure: self- report (current and past)	The data indicate that prior delinquency significantly affects gang membership, while prior drug use has no effect on gang membership. Gang membership has an effect on subsequent delinquency and drug use, although its effect on subsequent delinquency is fairly modest. Finally, there are interaction effects between gang membership and prior delinquency/drug use on subsequent delinquency/drug use.