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# Title Registration for a Systematic Review: Predictors of Youth Gang Membership in Low- and Middle-Income Countries: A Systematic Review

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## TITLE OF THE REVIEW

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Predictors of Youth Gang Membership in Low- and Middle-Income Countries: A Systematic Review

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## BACKGROUND

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Youth gangs are identified internationally with increased rates of delinquency and violent crime (Howell, 1997; Klein, 2002; White, 2002), including trafficking in arms, drugs and (increasingly) humans (Organisation of American States [OAS], 2007). Gang members are disproportionately involved with serious and violent offences compared to non-gang delinquent youth (Howell, 1998). This suggests that something about gang membership encourages violence over and above the correlation between having delinquent friends and a previous delinquent history (Battin, Hill, Abbott, Catalano, & Hawkins, 1998).

Although associated with criminal activity, gangs can offer a sense of belonging and purpose to disenfranchised youth (Howell, 2012; Tobin, 2008). In low- and middle-income countries in particular, gang membership has been identified as offering a unique social framework for excluded youth to meet particular social and cultural needs (OAS, 2007). The General Secretariat of the Organization of American States (OAS, 2007, p.5) created the following consensus definition of youth gangs:

*"Youth gangs represent a spontaneous effort by children and young people to create, where it does not exist, an urban space in society that is adapted to their needs, where they can exercise the rights that their families, government, and communities do not offer them. Arising out of extreme poverty, exclusion, and a lack of opportunities, gangs try to gain their rights and meet their needs by organizing themselves without supervision and developing their own rules, and by securing for themselves a territory and a set of symbols that gives meaning to their membership in the group. This endeavor to exercise their citizenship is, in many cases, a violation of their own and others' rights, and frequently generates violence and crime in a vicious circle that perpetuates their original exclusion. This is why they cannot reverse the situation that they were born into. Since it is primarily a male phenomenon, female gang members suffer more intensively from gender discrimination and the inequalities inherent in the dominant culture."*

The majority of empirical research on youth gangs has been conducted in the United States, however youth gangs are a global phenomenon (Decker & Pyrooz, 2013), present both in high income and low- and middle-income countries. In a cross-national comparison of 30 countries across Europe, the Mediterranean and Latin America, the prevalence of youth gang involvement has been estimated at between 0.4 and 17 per cent of the youth population (Decker & Pyrooz, 2010; Gatti, Haymoz & Schadee, 2011). Klein and Maxson (2006) argue

that the best estimate of the prevalence of youth gangs in the United States is 2 per cent for current membership and 5 per cent for current or former membership, although definitional and methodological differences can lead to vastly different estimates (Klein & Maxson, 2006). Official estimates of gang membership in Central America estimate approximately 69,000 members, while academic estimates believe this figure to be closer to 200,000 (UNODC, 2007). Gang prevalence in the Caribbean has been estimated at 17-24 per cent of males and 11-16 per cent of females (Katz & Fox, 2010). Gangs are also active in South Africa, with an estimate of 100,000 members in Western Cape alone (Reckson & Becker, cited in Decker & Pyrooz, 2010); however, limited empirical research has examined gangs in Africa and Asia to date (Decker & Pyrooz, 2010).

Understanding individual risk and protective factors<sup>1</sup> associated with youth gang membership is essential to designing empirically-based prevention strategies to reduce the levels of youth gang membership and the incidence of youth gang violence. The proposed systematic review aims to synthesise the research evidence that identifies the pathways to youth gang membership in low- and middle-income countries.

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## **OBJECTIVES**

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This review aims to synthesise the published and unpublished empirical evidence on the predictive factors associated with membership of youth gangs in low- and middle-income countries.

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## **EXISTING REVIEWS**

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The Campbell Collaboration has previously published two systematic reviews which examine the association between young people and gangs (Fisher, Montgomery, & Gardner, 2008a, 2008b). The focus of these reviews is preventing youth gang involvement through cognitive-behavioural and opportunities provision interventions. Another review of interventions designed to reduce gang-related crime was conducted by the Evidence for Policy and Practice Information and Co-ordinating Centre (EPPI-Centre, 2009). These three reviews have not considered the predictive factors of gang membership, and have focused on interventions implemented in high income countries. Klein and Maxson (2006) conducted a systematic review of the published evidence on risk factors for youth gang membership; however this review again focused on studies conducted in the United States, Canada and Europe.

We suggest that low- and middle-income countries' past or current experiences of war or conflict (for example, Colombia, Nicaragua and South Africa) will inspire different motivations for joining and remaining with a gang than in high income countries. We argue that post-conflict societies possess conditions which enable gang formation and violence, due to an existing culture of violence, a low sense of citizen security and distrust of authorities,

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<sup>1</sup> Hereafter, for brevity, we will refer to the set of risk and/or protective factors as "predictive factors"

coupled with ready access to firearms and drugs (Cruz, 2007; Davies & MacPherson, 2011). Considering differing antecedents and motivations behind gang formation, coupled with different social, economic and political conditions present between high income and low- and middle-income countries, our review will be comprised of studies of predictive factors of gang membership in countries classified as low- and middle-income by the World Bank (World Bank, 2013).

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## **PREDICTORS**

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The proposed review focuses on the factors associated with membership in youth gangs in low- and middle-income countries. We anticipate that this review will identify multiple predictors of interest.

Extensive research has focused on identifying predictors which may increase the likelihood of youth becoming involved in violent activity, categorised into individual, family, school, peer group, school, and community factors (Howell, 2012; Howell & Egley, 2005; Katz & Fox, 2010; Klein & Maxson, 2006; Tobin, 2008). These factors are identified as precursors to youth gang membership, rather than outcomes as a result of youth gang membership.

Individual factors include biological and psychological characteristics identifiable in children at young ages which may increase vulnerability to negative social and environmental influences (Herrenkohl et al., 2000). Family factors refer to the way in which children are socialised in families and how family characteristics may influence behaviour (Blum et al., 2003; Moser & Holland, 1997; Thale & Falkenburger, 2006). School factors suggest that children's academic achievement and experiences at school are related to violence (Herrenkohl et al., 2000; Howell & Egley, 2005; Olate, Salas-Wright, & Vaughn, 2012). Negative peer influences and peer gang involvement are amongst the strongest predictors of violent activity (Dahlberg, 1998; Katz & Fox, 2010; Moser & Holland, 1997; Olate et al., 2012), when peer demands for conformity include strong social pressures for engaging in risk behaviours, and these behaviours are modelled, approved, encouraged and rewarded by friends (Alleyne & Wood, 2010; Howell, 2012; Thornberry, Krohn, Lizotte, & Chard-Wierschem, 1993). Community factors, such as being exposed to crime, firearms and drugs in a neighbourhood may also increase the risk for violent activity (Katz & Fox, 2010; Moser & Holland, 1997; Sanders, Schneiderman, Loken, Lankenau, & Bloom, 2009; Thale & Falkenburger, 2006; Tobin, 2008). Socially disorganised communities also elevate the risk for violence (Howell, 2012; Howell & Egley, 2005).

We will code all predictors identified in the primary studies, and categorise them according to the framework of individual, family, school, peer group and community factors. We will synthesise the effects of these predictive factors separately at the analytic stage of the review.

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## **POPULATION**

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We suggest that there are clear differences in the motivations for participation in gangs between youth in high income countries and those in low- and middle-income countries. This is evidenced in Olate, Salas-Wright and Vaughn's (2011) cross-cultural study, which identifies significant differences in the predictive factors of youth gang membership between San Salvador and Boston, particularly with regards to early delinquency and violence. Many low- and middle income countries have experienced or are experiencing some form of war or conflict, creating societies which foster youth gang membership. Issues such as a culture of violence, low sense of citizen security, distrust of authorities, poor economic outlook, high accessibility to firearms and drugs, and migration enable the creation and maintenance of gangs in such countries (Cruz, 2007; Davies & MacPherson, 2011; Thale & Falkenburger, 2006). We therefore focus our review on the predictive factors for youth gang membership in low- and middle-income countries, as defined by the World Bank (World Bank, 2013).

There is a general agreement amongst researchers that most members of youth gangs are aged between 12 and 24 years of age (Howell, Egley, & O'Donnell, n.d.; Huff, 1993; Rodgers, 1999; Seelke, 2013). However, formal definitions of youth vary across countries, and we will therefore include studies in which the authors identified the participants as youth, or where the age of participants is closely aligned to the 12 to 24 year range.

We will adopt a broad definition of youth gang membership. Whilst our review is guided by the OAS (2007) rights-based definition of youth gangs (above), we acknowledge that there is no clear international consensus definition of youth gangs. As such, we will accept youth gangs as defined by the Eurogang definition: "a street gang (or troublesome youth group corresponding to a street gang elsewhere) is any durable, street-oriented youth group whose involvement in illegal activity is part of its group identity" (Weerman et. al., 2009, p.20); likewise we will accept author definitions of youth gangs.

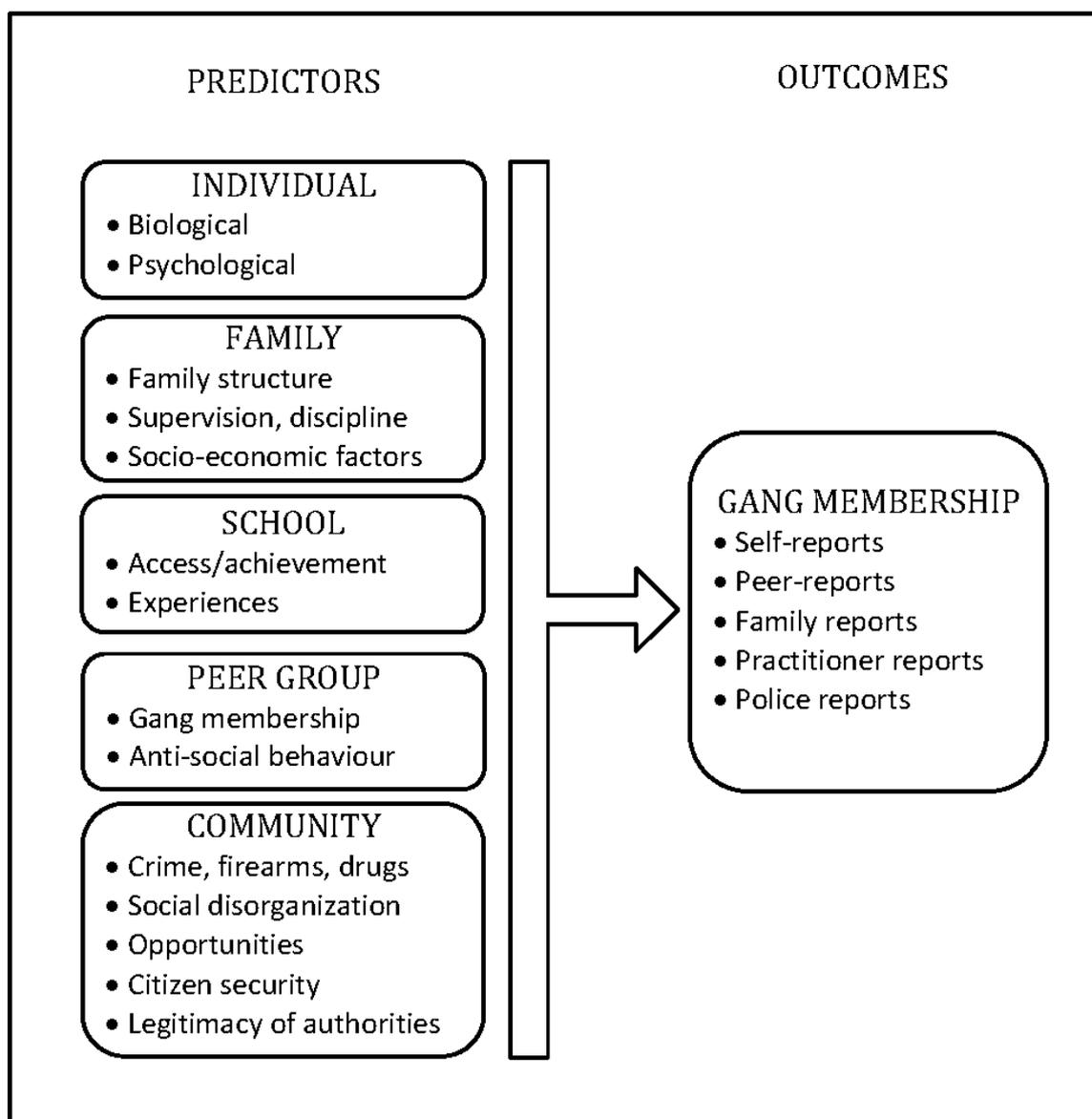
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## **OUTCOMES**

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The outcome of interest is membership in youth gangs. We will code outcomes related to individual youth participation in gangs, including self-reported, peer-reported, family-reported, practitioner-reported, or police-reported measures of youth gang membership. We will perform moderator analysis to identify heterogeneity due to different methods of recording gang membership. Figure 1 shows the predictors and outcomes that will be examined in this review.

Figure 1: Logic model of predictors of gang membership




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## STUDY DESIGNS

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For inclusion in the review, studies must compare young people who are gang members with young people who are not gang members. We will accept experimental, quasi-experimental, or observational designs (either longitudinal or cross-sectional), as long as they include a valid comparison group. We will not include studies that report only on the characteristics of a youth gang sample with no reference to a control group – in such studies there is no way to demonstrate that gang-involved and non-gang-involved youth differ on the predictor of interest. While single case studies and ethnographies capture details of the lived experience and individual pathways, they are not appropriate for inclusion in this review as there is no

control group to determine what is unique about gang members when compared to non-gang members.

Due to ethical and practical issues with allocating youth to a “gang” or “no gang” condition, we do not expect to find any randomised control experiments. We anticipate that many of the research designs will be retrospective comparisons of the histories of gang youth compared to non-gang youth, or prospective studies of youth where gang membership is identified as an outcome state. The analyses in these studies are likely to be either two-group comparisons across a number of selected variables, or multiple regression designs with gang membership as the dependent variable. We will synthesise the results of these two types of studies separately, for each identified predictive factor.

To be considered a true predictor, a risk factor needs to be measured prior to the outcome occurring, making longitudinal designs the optimal study method for identifying predictive factors (Farrington & Loeber, 2000). However, many studies of gang-involved youth use a cross-sectional study design, in which some factors are retrospectively reported or are clearly in existence prior to gang involvement (for example, sex, ethnicity), whilst some factors are only measured once the young person is already in a gang (for example, family conflict, expulsion from school). We recognise that measuring the predictor at the same time as measuring the outcome has the potential to conflate the causes of gang membership with the results of gang membership (Klein & Maxson, 2006). We follow Klein and Maxson (2006) in including these cross-sectional studies in order to retain more sources of evidence in our review; however, we will conduct sensitivity analyses to determine whether the effect size has been influenced by the study design.

We acknowledge that there may be issues of comparability between studies using a multiple regression design, as different studies may use different sets of covariates. If this is the case, we will seek additional information from the study authors about the single-order correlations and covariance matrix structure.

To be eligible for inclusion in a meta-analysis, the study must report an effect size, or provide sufficient detail such that an effect size can be calculated.

Our preliminary investigations have identified several examples of eligible studies. Katz and Fox (2010) examined the risk and protective factors associated with gang-involved youth in Trinidad and Tobago. Surveying a cross section of 2,206 school students, the authors examined thirty risk factors and thirteen protective factors between non-gang, current and former gang-involved youth through a multinomial logistic regression. Predictive factors were grouped into community (for example, mobility, neighbourhood attachment and perceived availability of drugs and hand guns), school (for example, commitment, academic achievement), family (for example, conflict, parental attitudes) and peer-individual (for example perceptions of drug and alcohol use, depression, antisocial peers). A second example study considers gang involvement in China, through a cross sectional survey of 2,245 high school students (Pyrooz & Decker, 2012). The authors utilise independent sample

*t* tests and Chi<sup>2</sup> tests to compare non-gang and gang youth across a number of factors, including age, gender, minority status, parents education, household strain, self-control, school attachment and performance, parental attachment and monitoring and peer associations. A study by Olate and colleagues (2012) used a similar methodology, conducting a cross-sectional survey of 174 young people in San Salvador. The authors used independent sample *t* tests and Chi<sup>2</sup> tests to compare high-risk non-gang-involved youth to gang-involved youth on a number of demographic variables and risk factors, categorised into individual, family, school, peer and community domains.

### **Inclusion criteria:**

Studies must be aimed at identifying the risk factors that lead to membership of youth gangs, or report youth gang membership as an outcome measure. Given the lack of a clear consensus definition of youth gangs, we take a broad definition and include any study which the authors identify as focusing on risk and/or predictive factors leading to youth gang involvement.

We will only include studies that were undertaken in a low or middle income country as defined by the World Bank (2013).

We will include studies undertaken since 1980.

We will accept studies where the unit of analysis is the individual.

### **Exclusion criteria:**

Documents published prior to 1980 or that report on studies that took place prior to 1980 are not eligible for review.

We will exclude studies from countries categorised as high income by the World Bank (2013).

### **Method of synthesis:**

If the systematic search results in the extraction of suitable data for meta-analysis, we will use meta-analysis to synthesise the effect sizes for each identified predictive factor. We will use a random-effects model with inverse variance weighting to combine study results. We will display results of all meta-analyses using forest plots, including 95% confidence intervals for the estimates of all effect sizes.

We will examine sources of heterogeneity in effect sizes, including location, conflict or post-conflict country status, method of reporting gang membership, study design, and gang type, using subgroup analysis (analogue to the ANOVA) for categorical outcomes and meta-regression for continuous predictors. We will test and adjust for publication bias using a

range of approaches suggested in Rothstein, Sutton, and Borenstein (2005); depending on the data collected, this may include funnel plots and trim-and-fill analysis.

We will use Comprehensive Meta-Analysis software for calculations and production of figures.

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**POTENTIAL CONFLICTS OF INTEREST**

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None of the authors have any known conflict of interest.

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**PRELIMINARY TIMEFRAME**

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- Date you plan to submit a draft protocol: August 2013
- Date you plan to submit a draft review: December 2013

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## DECLARATION

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### **Authors' responsibilities**

By completing this form, you accept responsibility for preparing, maintaining, and updating the review in accordance with Campbell Collaboration policy. The Coordinating Group will provide as much support as possible to assist with the preparation of the review.

A draft protocol must be submitted to the Coordinating Group within one year of title acceptance. If drafts are not submitted before the agreed deadlines, or if we are unable to contact you for an extended period, the Coordinating Group has the right to de-register the title or transfer the title to alternative authors. The Coordinating Group also has the right to de-register or transfer the title if it does not meet the standards of the Coordinating Group and/or the Campbell Collaboration.

You accept responsibility for maintaining the review in light of new evidence, comments and criticisms, and other developments, and updating the review every five years, when substantial new evidence becomes available, or, if requested, transferring responsibility for maintaining the review to others as agreed with the Coordinating Group.

### **Publication in the Campbell Library**

The support of the Coordinating Group in preparing your review is conditional upon your agreement to publish the protocol, finished review and subsequent updates in the Campbell Library. Concurrent publication in other journals is encouraged. However, a Campbell systematic review should be published either before, or at the same time as, its publication in other journals. Authors should not publish Campbell reviews in journals before they are ready for publication in the Campbell Library. Authors should remember to include a statement mentioning the published Campbell review in any non-Campbell publications of the review.

**I understand the commitment required to undertake a Campbell review, and agree to publish in the Campbell Library. Signed on behalf of the authors:**

**Form completed by: Angela Higginson**

**Date: 12 August 2013**