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Abstract | This paper provides a narrative synthesis of the results of a systematic review of the social, psychological and economic factors leading to recruitment into organised crime.

This is based on the analysis of evidence emerging from 47 qualitative, quantitative and mixed-method studies published in or before 2017.

While the selected studies varied markedly in method and quality, several factors emerged as particularly important in understanding recruitment into organised criminal groups. These included the role of social relations (family, kinship, friendship and work-relations), criminal background and criminal skills.

Recruitment into organised criminal groups: A systematic review

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While several disciplines have produced a rich and growing literature on the general impact of organised crime (criminology, sociology, history, law, political science, economics and psychology), there is little systematic assessment of the factors determining individuals' recruitment into organised criminal groups. Knowledge of the processes leading to recruitment into organised criminal groups is scattered across different fields and is rarely the main objective of specific research effort. This may be an obstacle to a better understanding of the social and organisational characteristics of criminal organisations. Furthermore, the unsystematic nature of this knowledge jeopardises the development of preventive programs aiming to effectively reduce recruitment into criminal organisations and, in turn, their capacity to maintain themselves over time.



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This report provides a narrative synthesis of the results of a systematic review of the social, psychological and economic factors leading to recruitment into organised crime (Savona, Calderoni, Superchi et al. 2017). The report summarised here analysed the evidence in the literature published in or before 2017. The study was an output of Project PROTON (Modelling the PRocesses leading to Organised crime and TerrOrist Networks, <https://www.protonproject.eu>), a research project funded by the European Commission under the Horizon 2020 program which aims to develop simulations of recruitment (grant no. 699824).

Background and objectives

Recruitment into an organised criminal group (alternatively referred to as joining) may entail significant consequences for the lives of individuals. Joining a criminal organisation often increases the risk of offending, arrest and conviction (Melde and Esbensen 2014; Savona, Calderoni, Campedelli et al. 2017). Furthermore, it may increase the risk of other negative consequences for the individual, such as individual injury, educational and employment failure, and social isolation. Recruitment into organised criminal groups is thus a negative turning point, likely to entrench individuals into a spiral of prolonged and increasingly serious offending which significantly and negatively impacts on their future existence (Laub and Sampson 1993; Melde and Esbensen 2011).

Despite the serious individual and societal consequences of joining organised criminal groups, the available evidence on the various factors leading to individuals' recruitment is scarce. A common definition of both organised crime and recruitment are missing, and studies use multiple theoretical and methodological approaches. The lack of evidence is surprising given the growth in organised crime research and the investments made in specialised law enforcement agencies, investigative techniques, and international cooperation. The mismatch between empirical evidence on recruitment into organised criminal groups and the variety of policy measures tackling it may hinder the evaluation of these measures and the development of effective policies.

Whereas there is no systematic assessment on recruitment into organised criminal groups, evidence from other areas of the literature may provide some interesting insights. For example, while organised crime and gang research have traditionally evolved in parallel, they also share several elements, such as the negative consequences of joining a gang, the use of violence, group processes and identities, and involvement in illicit markets (Decker, Bynum and Weisel 1998; Decker and Curry 2002; Decker and Pyrooz 2015). Research on gangs has an established tradition of assessing what drives individuals to join youth gangs and the effectiveness of policies to prevent gang involvement.

The substantial body of systematic reviews on gangs, however, has mostly focused on youth street gangs. For example, Klein and Maxson (1990: ch 4) systematically assessed the factors associated with joining adolescent gangs in a selection of 20 studies from 1990. They found several factors across five domains (individual, family, peer, school and neighbourhood) that increased the probability of joining a gang, although stronger support was found for factors falling into the peer, individual and family domains. Raby and Jones (2016) identified 102 studies on the risk factors for male youth gang affiliation and found various levels of support for different individual, family, peer and environmental factors.

More recently, Mallion and Wood (2018) focused on the relationship between emotional processes and youth gang membership, finding that high levels of antisocial personality disorder as well as low empathy and emotional intelligence were potential risks for gang membership. Higginson and colleagues (2018) examined the predictors of gang membership in low- and middle-income countries. Also, Tonks and Stephenson (2019) systematically assessed the process of disengagement from street gangs. In addition to the systematic assessment of risk factors, several other systematic reviews have addressed the impact of specific interventions on gang involvement (Fisher, Montgomery and Gardner 2008; Higginson et al. 2015; Hodgkinson et al. 2009).

The discrepancy between the availability of systematic assessments of the factors leading to involvement in youth street gangs and organised criminal groups enables a few considerations. First, while the design and implementation of gang policies can rely on a strong body of evaluation research, policies on organised crime lack such an evidence base and may be scarcely effective, inefficient or even counterproductive. Considering the financial and resource costs of the many national and international institutions fighting organised criminal groups, the improvement of available knowledge on organised crime is essential for ensuring better and more effective policies. Second, the lack of systematic assessments of organised crime may be due to the controversial nature of and diverse forms taken by organised crime, but also the inevitable methodological difficulties in studying an often secret, hidden population engaged in serious, violent offending. Third, the growth in the number and quality of systematic reviews on gangs may offer some reasons to be optimistic. As this report will show, the number and quality of studies on recruitment into organised criminal groups are growing. In the next decades, however, more and better studies will likely enable comprehensive assessment of the available evidence on organised crime and systematic evaluations of the effectiveness of policies deployed to prevent and tackle criminal organisations.

Method

The current study aimed to systematically assess the factors associated with recruitment into organised criminal groups in the existing literature. The review adopted an operational definition based on the United Nations Convention on Transnational Organized Crime (United Nations 2000), which at Article 2 defines an 'organized criminal group' as a 'structured group of three or more persons, existing for a period of time and acting in concert with the aim of committing one or more serious crimes...in order to obtain, directly or indirectly, a financial or other material benefit'. The UN definition has been criticised for its excessive breadth (Paoli and Fijnaut 2004; Schloenhardt 2010). Nevertheless, this broad definition ensured that the systematic review encompassed different types of groups, ranging from mafias to gangs and drug trafficking organisations. At the same time, the systematic review excludes youth gangs (defined in accordance with the Eurogang definition as 'any durable, street-oriented youth group whose identity includes involvement in illegal activity'; Weerman et al. 2009: 20) given that organised criminal groups are normally considered adult phenomena and to avoid overlap with the already mentioned systematic reviews on youth street gangs.

Recruitment into organised criminal groups has received scarce attention in the literature and there is a lack of a commonly agreed definition. For the purpose of this systematic review, recruitment refers to the different processes leading individuals to a stable involvement in an organised criminal group. The definition encompasses a variety of situations, ranging from formal affiliation rituals to the informal socialisation into criminal groups through friends or family. However, it excludes occasional participation in offences with members of a criminal group. In this document we alternatively refer to recruitment as joining without intention to differentiate between these terms (for a similar terminological choice, see Decker & Chapman 2008: 96).

This systematic review included both quantitative and qualitative studies. Qualitative studies were included due to the aim of systematically scanning all the available evidence on the factors leading to recruitment into organised criminal groups. This field of research is affected by the limited availability of datasets, and the difficulties in collecting data on criminal organisations in general due to their secrecy and the potential dangers. Consequently, the literature on organised crime largely consists of qualitative studies relying on, for example, participant observation, interviews and case studies.

The research team has also undertaken the process of a Campbell systematic review, which follows the detailed guidelines and standards established by the Campbell Collaboration, a non-profit organisation promoting evidence-based policy in several fields including crime and justice (<https://www.campbellcollaboration.org/>). Presently, the title of the systematic review (Calderoni et al. 2017) and the protocol (Calderoni et al. 2019) have been approved and published and the review itself is ongoing. The systematic review conducted according to the Campbell Collaboration guidelines will mostly focus on quantitative studies with the aim of synthesising available evidence on the strength of specific factors for recruitment, leading to a meta-analysis of the results.

Search strategy

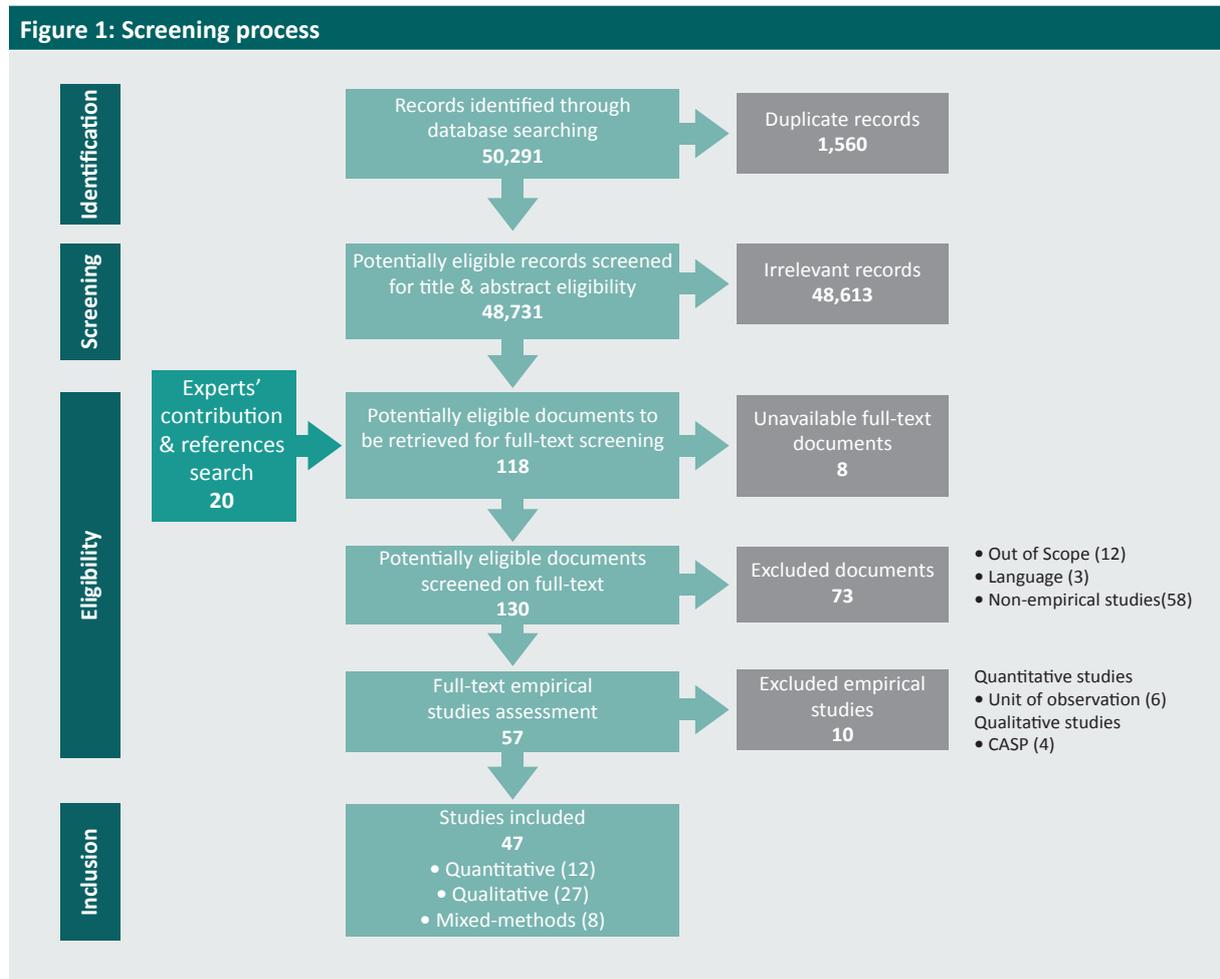
The systematic review examined academic and grey literature in English, French, German, Italian and Spanish with no temporal or geographic limitations. The search strategy aimed to retrieve empirical studies examining the social, psychological and economic factors associated with recruitment into organised criminal groups. The query structure combined multiple keywords from three categories:

- type of organised crime group (eg “criminal organisation”, “crim* network*”, “motorcycle gang*”);
- type of factors (eg “povert*”, “econom*”, “behavioural”); and
- recruitment (“predictor*”, “factor*”, “correlat*”).

A team of trained researchers conducted the search on 12 databases between February and April 2017.

Screening of documents

The initial search yielded 48,731 unique studies, whose titles and abstracts were subsequently screened to exclude irrelevant studies. The screening resulted in 118 documents eligible for full-text assessment. This list was further expanded by examining the bibliographies of these studies and through interaction with organised crime scholars. A total of 138 potentially eligible documents were assessed in the full-text screening. Out of 138 studies, eight were unavailable in full-text, and 73 documents were excluded because they were non-empirical studies, out of scope, or in a language not included in the review. Of the remaining 57 empirical studies, 10 were excluded because they did not focus on factors at the individual level or did not describe the methodology or results in sufficient detail. In conclusion, the systematic search of the literature yielded 47 empirical studies assessing the factors leading to recruitment into organised crime (Figure 1).



Source: Savona, Calderoni, Superchi et al. 2017: 19

Limitations

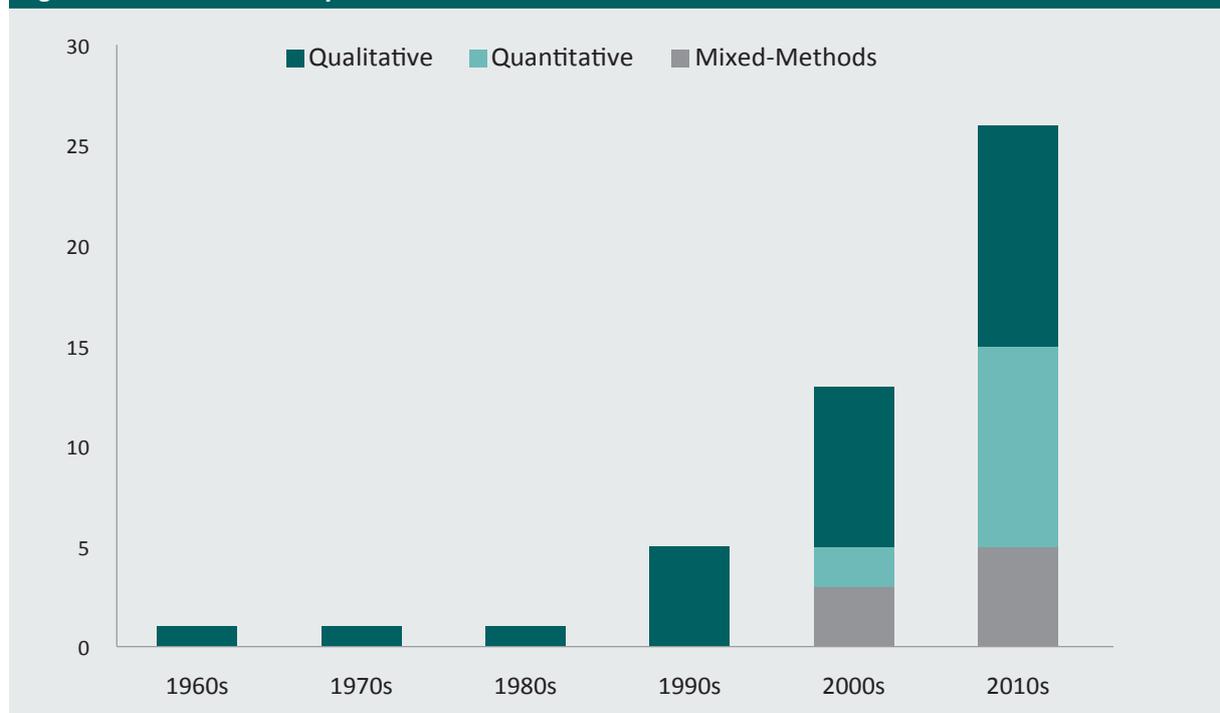
It should be noted that the selected studies rarely provided enough information to accurately establish causal or temporal relationships between certain factors and recruitment into organised criminal groups. The standard approach in systematic reviews on risk factors for crime requires that risk factors precede the event/condition in question (eg substance use disorder during youth and offences during adulthood). Applying this requirement would have excluded many of the 47 studies reviewed, substantially restricting the scope of this systematic review to factors such as gender, place of birth, and parental or other family factors whose occurrence may safely be assumed to predate involvement in organised criminal groups. A more flexible approach enabled a more comprehensive review, but invites particular caution in assessing causal relationships between the factors and recruitment.

Results

Overview of the included studies

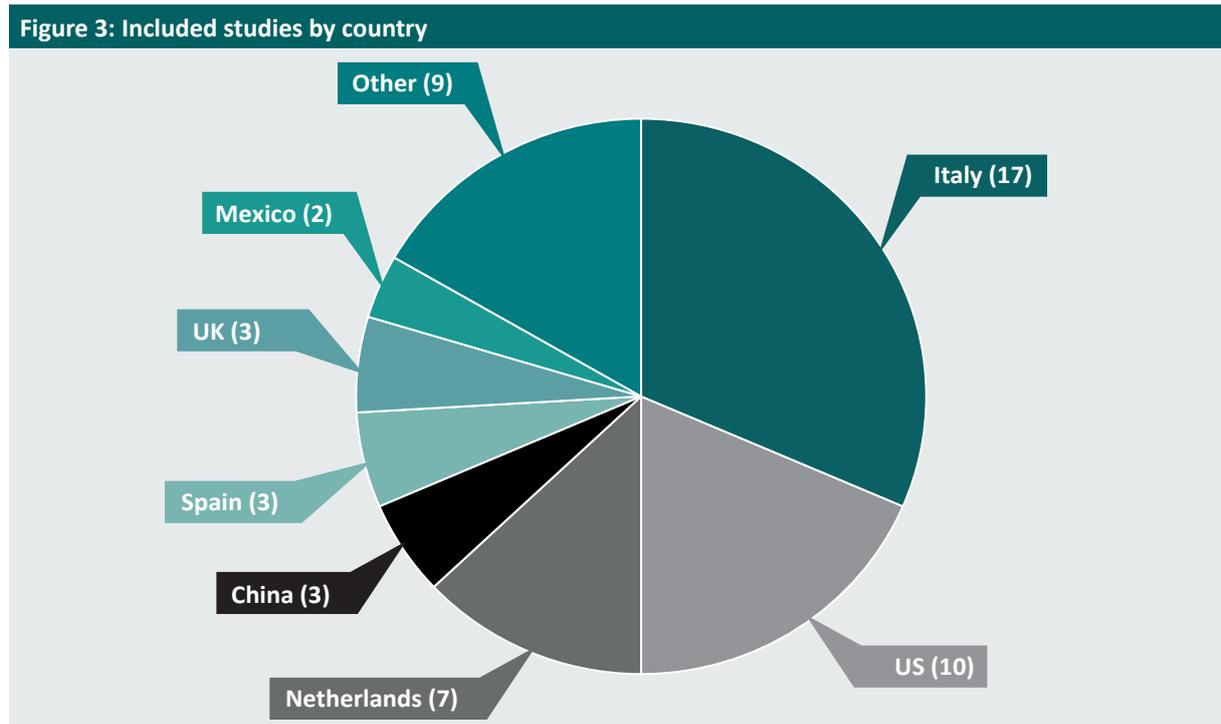
The studies included in the systematic review span several decades, the first being published in 1969 and the latest in 2017 (Figure 2). While only three studies were published between the 1960s and the 1980s, the number of publications increased in subsequent decades, with the highest number of works being published in the 2010–2017 period. More than half of the included studies were published since 2010 ($n=26$). Overall, the majority of the studies relied on qualitative methods ($n=27$). Quantitative ($n=12$) or mixed-method ($n=8$) studies have been published only since the 2000s. Nevertheless, the increasing trend in the number of included publications observed in the last decades was largely driven by quantitative studies, which nearly equalled qualitative studies in number during the 2010–2017 period ($n=11$ vs $n=10$, respectively). Tables A1 to A3 list the selected studies.

Figure 2: Included studies by decade and research method



Most of the studies ($n=23$) relied on secondary data, examining recruitment into organised criminal groups using official crime data, arrest data, or judicial or police documents. Slightly more than a quarter of the included studies used primary data—mostly interviews and surveys with offenders or informants ($n=13$)—whereas another 11 studies used both primary and secondary data.

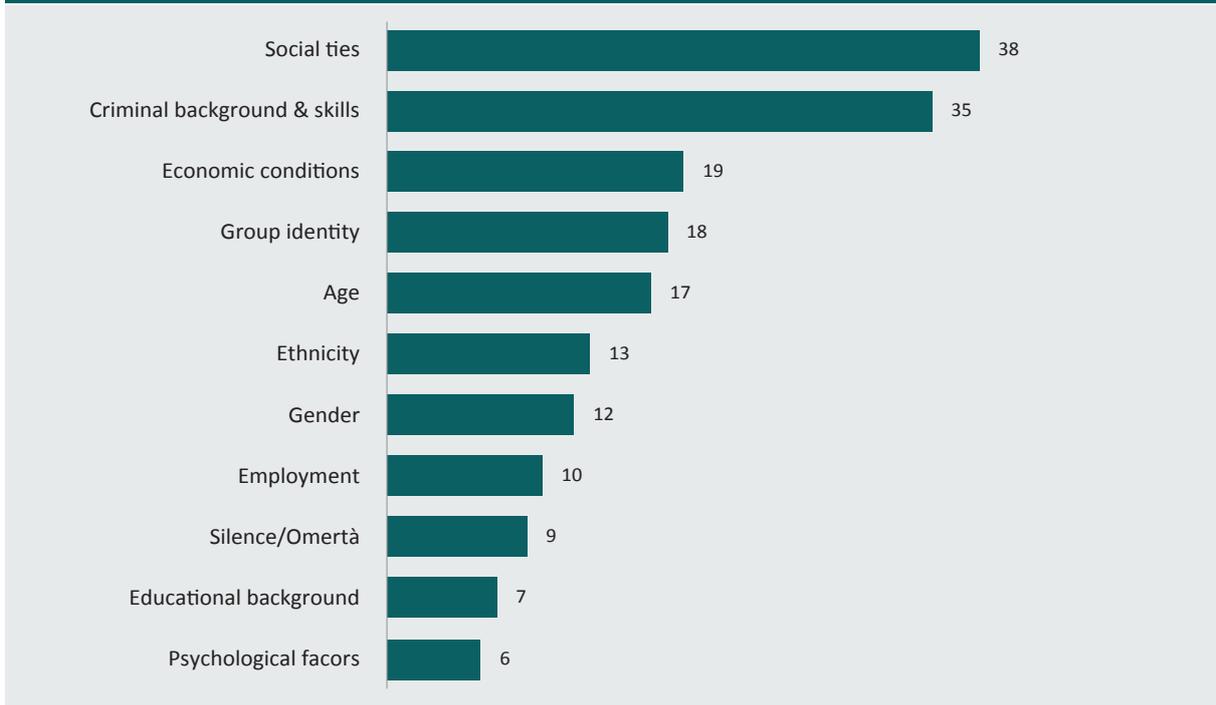
The studies included in the review covered 16 countries, although with different frequencies. Considering that some studies covered more than one country, Italy ($n=17$) and the United States ($n=10$) accounted for nearly half of the studies, followed by the Netherlands ($n=7$) (Figure 3).



The factors leading to recruitment into organised criminal groups

All the included studies analysed the factors leading to recruitment into organised criminal groups. The full-text assessment of the selected documents identified a total of 184 factors, which were classified into 11 categories for a better synthesis. The most frequently reported categories were social ties (38 factors identified in the included studies) and criminal background and skills (35 factors identified). The following subsections provide insight into the factors identified within each category in order of declining prevalence. Certain factors which have less relevance to the Australian context, such as silence/omertà, are not examined in detail in this paper. Further details are available in the full report (Savona, Calderoni, Superchi et al. 2017).

Figure 4: Number of factors by category (n=184)



Social ties

Social ties are the factors most frequently reported as leading to recruitment into organised criminal groups. Social relations comprise parental, family, kinship, friendship and other ties. Social, professional and criminal connections are frequently interrelated and mutually reinforcing, and often create opportunities for ‘profitable criminal opportunities’ (Kleemans & de Poot 2008: 75).

Family ties are an important driver of recruitment into organised crime groups (Arlacchi 1983; Arsovska 2015; Behan 1996; Brancaccio 2017; Ciconte 1992; Cressey 1969; Decker & Chapman 2008; Gambetta 1993; Giménez-Salinas & Regadera 2016; Giménez-Salinas, Requena & de la Corte 2011; Kissner & Pyrooz 2009; Lo 2010; Requena et al. 2014; Sciarrone 2014; Sergi 2016; van Koppen 2013; Varese 2013, 2011a, 2011b, 2001; Wang 2013). Family ties favour the cultural transmission and learning processes required for recruitment into criminal organisations (Gordon 2000; Sergi 2016). The role of family is particularly strong for traditional groups such as the Italian mafias, where being born in a mafia family often determines an individual’s early involvement in the organisation (Albini 1971; Arlacchi 1983; Ciconte 1992; Gambetta 1993; Hess 1973; Lupo 1993; Paoli 2003; Sciarrone 2014; Sergi 2016). However, more recent research shows that the importance of the family extends even beyond the more traditional and family-based criminal organisations. For example, parental gang membership increases the probability that an individual will become a gang member (Kissner & Pyrooz 2009). Similar influences emerged in recent studies on Dutch organised criminals (van Dijk, Kleemans & Eichelsheim 2018; Spapens & Moors 2019).

Beyond family, previous friendships and acquaintances are often conditions for recruitment into organised crime groups. These groups rely on close friendships due to the need for high levels of trust (van Koppen 2013). These ties are often reinforced by common ethnic, regional or neighbourhood origins (Albini 1971; Paoli 2003).

Social ties are also the result of specific educational background, employment and professional expertise. Individuals come into contact with organised criminal groups in their work environment and this generates criminal opportunities which may lead to their recruitment (Kleemans and de Poot 2008; van Koppen 2013; van Koppen and de Poot 2013).

Criminal background and skills

The included studies often identified the importance of violence and criminal expertise to recruitment into organised criminal groups (Albini 1971; Arlacchi 1983; Behan 1996; Blokland et al. 2019; Brancaccio 2017; Gambetta 1993).

Violence and an inclination for criminal behaviour are often crucial for recruitment in organised criminal groups. Members report long, violent and prolific criminal careers, and these patterns often precede their joining the organisation (Behan 1996; Blokland et al. 2019; Kirby et al. 2016; Requena et al. 2014; see also Campedelli et al. 2019). Furthermore, a more active criminal career often involves imprisonment, which can favour the establishment of contacts, social relations and opportunities for recruitment into organised criminal groups (Behan 1996; Ciconte 1992).

Several other skills may prove crucial to recruitment into organised criminal groups. Individuals need to show loyalty, competence in specific illegal business activities, and the capacity to avoid police detection (Densley 2012). Additionally, expertise and qualifications associated with particular education, employment or working conditions may on some occasions promote the recruitment of specific individuals (Gambetta 1993; Giménez-Salinas & Regadera 2016; van Koppen 2013).

A specific skill is the capacity to maintain silence. For the Italian mafias, adherence to the code of silence, or *omertà*, is often an essential requirement for recruitment into the organisation (Albini 1971; Ciconte 1992; Cressey 1969; Gambetta 1993; Hess 1973; Lupo 1993; Paoli 2003). The code of silence encompasses a variety of behavioural and attitudinal elements, including diffidence towards and avoidance of contact with law enforcement agencies, a commitment not to reveal information to outsiders, and a general attitude of denying the existence of the criminal groups.

Educational background, employment and economic conditions

Several studies pointed out that members of criminal groups reported low educational achievements (Albini 1971; Carvalho & Soares 2016; Sales 2015; Savona, Calderoni, Campedelli et al. 2017). Arlacchi (1983) contended that the education levels of Italian mafia members have increased over time, allowing them to exploit new opportunities arising from the growing market economy. However, this increase may have reflected improved education levels in the general Italian population. According to an analysis of the entire population of individuals convicted of mafia association in Italy ($n=13,229$ individuals), 82 percent of the sample had had between five and eight years of education (Savona, Calderoni, Campedelli et al. 2017: 200).

The selected literature also found that a lack of legitimate jobs may promote recruitment into organised criminal groups (Brancaccio 2017; Ciconte 1992; Gambetta 1993; Jhi & Gerber 2015; Sales 2015; Wang 2013). For example, Jhi and Gerber (2015) showed that the probability of becoming a gang member was nearly three times higher for individuals with no employment history before prison than for individuals with work experience before prison.

Some studies suggested that specific work positions or professional skills provide an opportunity to join criminal groups (Ciconte 1992; Kleemans & de Poot 2008; Kleemans & van de Bunt 2008; van Koppen 2013; van Koppen & de Poot 2013). For example, employment in the transport industry gives workers opportunities to move illicit goods, making them attractive recruits for criminal groups (van Koppen & de Poot 2013).

Overall, poor economic conditions and low socio-economic status were often identified as facilitating recruitment into organised criminal groups (Albini 1971; Behan 1996; Brotherton & Barrios 2004; Carvalho and Soares 2016; Ciconte 1992; Decker & Chapman 2008; Gordon 2000; Jhi & Gerber 2015; Sales 2015; Sergi 2016; van San & Sikkens 2017). However, individuals with higher socio-economic status may also become involved in criminal organisations, either because they are attracted by the profit-making opportunities or because they face difficult personal and economic circumstances (van Koppen 2013).

Group identity

Entering some organised crime groups gives access to specific subcultures characterised by a sense of honour, loyalty and respect. Particularly in the mafias, members undergo rites of passage and ceremonies which symbolise their change of status. Being part of this culture is often attractive to members (Albini 1971; Arlacchi 1983; Brotherton & Barrios 2004; Cressey 1969; Gambetta 1993; Hess 1973; Hixon 2010; Lo 2010; Paoli 2003; Sciarrone 2014; Sergi 2016; Zhang & Chin 2002).

The sense of belonging is also an important factor in joining non-mafia organised crime groups (Arsovska 2015; Brotherton & Barrios 2004; Densley 2012; García 2006; Hixon 2010; May 2009). The sense of belonging is further reinforced by social interactions among members of the group and frequent co-offending, thus strengthening the group identity (Densley 2012; García 2006).

Age and gender

The studies included frequently discussed the ages of individuals recruited into organised criminal groups. However, the results suggest that individuals join organised crime groups as either young people (Arlacchi 1983; Arsovska 2015; Carvalho & Soares 2016; Hixon 2010; Kirby et al. 2016; Ostrosky et al. 2012) or adults (Blokland et al. 2019; Giménez-Salinas & Regadera 2016; Kissner & Pyrooz 2009; Kleemans & de Poot 2008; Unlu and Ekici 2012; van Koppen et al. 2010).

Recruitment into organised criminal groups at a young age may occur in different ways. Criminal organisations offer young people an attractive lifestyle and easy access to wealth and material goods (Behan 1996; Hixon 2010; Ostrosky et al. 2012). At the same time, troubled youths with school, drug and financial problems are attracted to organised crime (Arsovska 2015; Behan 1996; Carvalho & Soares 2016). Conversely, adults may become involved in organised crime groups through social connections, work opportunities or specific skills developed earlier in life, or because some groups restrict their membership to adults (Blokland et al. 2019; Kleemans & de Poot 2008).

Studies emphasise the predominance of men in organised crime groups, with a proportion even higher than among the general offending population (Brotherton & Barrios 2004; Hixon 2010; Kirby et al. 2016; Giménez-Salinas, Requena & de la Corte 2011; Unlu & Ekici 2012). Nevertheless, several studies have focused on women's involvement in criminal organisations. While statistically rare, some women participate in organised crime and sometimes perform important roles (Brotherton & Barrios 2004; Requena et al. 2014; van San and Sikkens 2017; see also Fiandaca 2007; Ingrasci 2007).

Ethnicity

The role of ethnicity in organised crime is controversial. Theories such as strain, social disorganisation, subcultures, and culture conflict have often emphasised the importance of ethnic heterogeneity, integration difficulties and limited access to education and economic opportunities as drivers of involvement in criminal groups. Some of the selected studies confirmed that marginalisation and specific ethnic/national characteristics may favour recruitment into organised crime groups (Arsovska 2015; Gordon 2000; Carvalho & Soares 2016). For example, Gordon's (2000) study on criminal groups in Vancouver pointed to mechanisms of strain, frustrations and barriers faced by minorities in achieving material success.

Furthermore, the literature suggests that a shared ethnic background or ethnic homogeneity is an important factor for involvement in some criminal groups (Albini 1971; Ciconte 1992; Cressey 1969; Decker & Chapman 2008; Hess 1973; Lupo 1993; Varese 2011b). A common ethnic origin may strengthen the ties among members and consequently increase the trust necessary to ensure the survival of the group (Arlacchi 1983; Behan 1996; Brancaccio 2017; Gambetta 1993). Decker and Chapman (2008: 96–7) found that groups of Colombian and Cuban drug smugglers often preferred to recruit individuals from the same nationalities due to higher trust in co-nationals.

Psychological factors

Some of the selected studies found that childhood conduct disorder, substance use disorder and psychopathological traits increase the risk of recruitment in organised criminal groups (Hixon 2010; Kissner & Pyrooz 2009; May 2009; Ostrosky et al. 2012; Schimmenti et al. 2014; Sergi 2016).

However, there were contrasting results on the relationship between recruitment into criminal groups and psychopathy. For example, Ostrosky and colleagues (2012) found that individuals in organised crime groups scored medium–high levels of psychopathy, with statistically significant differences compared to a control group. This suggests a lack of empathy and control, callousness, and antisocial behaviours. Conversely, Schimmenti and colleagues (2014) assessed Italian mafia members and other criminals and found low levels of psychopathy overall. Furthermore, mafia members scored lower than other criminals and were not different from the general Italian male population in their degree of psychopathy (Schimmenti et al. 2014). Nevertheless, a logistic regression model showed that higher scores in psychopathy factor 2 (antisocial traits) and lower scores in factor 1 (interpersonal/affective traits) and substance use disorder increased the probability of being a mafia member. These results found some support in a recent study comparing members of the Sicilian Cosa Nostra and the Neapolitan Camorra (Craparo et al. 2018), which found a general absence of psychopathological conditions in the sample.

Discussion and conclusion

The systematic review and the analysis of the selected studies revealed several findings. First, the literature has dedicated limited attention to recruitment into organised criminal groups. Evidence about the factors leading to involvement into criminal groups often came from observational studies assessing different theoretical or empirical issues (eg comparing the levels of violence used by organised crime and other groups). In other words, very few studies have directly examined what factors drive individuals into organised crime. In general terms, older qualitative studies often discussed the factors leading to recruitment based on the assessment of judicial sources and interviews with stakeholders. While providing important insight into the mechanisms of recruitment, this research was often vague on the concept of recruitment and on the operational definition of the factors.

Conversely, quantitative studies provided more specific information on the samples—particularly about age, gender, education, employment, and criminal offences—although the sample selection varied substantially (comprising heterogeneous groups such as convicted mafia offenders, self-reported gang members, or offenders guilty of offences normally associated with organised crime). Quantitative studies variously compared organised crime offenders with the general population, other prisoners, or other serious criminals. The variety of comparison groups may affect the validity of the findings. Mixed-methods studies balance the advantages and disadvantages of qualitative and quantitative approaches and allow a more detailed understanding of the recruitment processes. Thus, mixed-method research may offer one of the best strategies to study organised crime, although it could be more demanding in terms of data gathering.

The selected studies found an association between low educational achievement or low employment qualifications and involvement in criminal organisations, although these conditions may have existed before recruitment. As noted earlier, the studies examined rarely offered enough detail to establish causal or temporal relationships. This means that some of the risk factors identified may be correlates of recruitment, and in some instances they may actually have an inverse relationship with recruitment into organised criminal groups. For example, recruitment into criminal organisations may strengthen an individual's social ties with people involved in crime and lead them to commit a higher number of offences.

Notwithstanding the limitations mentioned above, the available evidence on the recruitment into organised criminal groups emphasised the importance of social relations and criminal background and skills. Regarding social ties, the evidence is broadly consistent with several theoretical interpretations of organised crime. As long ago as the 1970s scholars criticised stereotypes and myths about organised crime in the United States and in Italy and pointed out the importance of brokerage and interaction between 'upperworld' and underworld (Albini 1971; Blok 1974; Hess 1973; Ianni & Reuss-Ianni 1972). Since the late 1990s, analyses of Dutch organised criminals showed that social relations played a crucial role beyond traditional organised crime groups (Kleemans 2014; Kleemans & de Poot 2008; Kleemans & van de Bunt 1999). These findings suggest that social relations drive recruitment into organised crime groups through various mechanisms. For example, social relations may strengthen trust in new recruits, but may also propagate information and opportunities for recruitment into criminal groups.

Overall, the importance of social relations suggests that involvement in organised criminal groups may follow more general social dynamics of group involvement observed not only in gang research but in other sociological fields. Regarding criminal background and skills, the selected literature repeatedly argued that an inclination for violence and rule-breaking and previous criminal records often facilitate recruitment into criminal organisations. When these factors precede recruitment, they may support theoretical interpretations arguing that criminal collectives are mostly the result of individual propensity and self-selection processes (Gottfredson & Hirschi 1990). The difficulties in establishing causality between a criminal background and the recruitment, however, may point to a different conclusion, namely that criminal organisations may enhance individuals' offending. This would also be consistent with evidence from street gang studies showing that gang involvement increases criminal activity (Pyrooz et al. 2016).

The evidence about social relations and criminal background may appear to support contradictory theoretical stances in the nature vs nurture debate. However, it may be that both factors are associated with recruitment into organised criminal groups. For example, organised crime groups may be accessible to individuals with a propensity for violence or law-breaking, but only through social relations. To the best of our knowledge, no research falling within the scope of this study has ever explored the two hypotheses jointly.

From a policy perspective, our results suggest a need for policies addressing the extended social networks of organised crime members to prevent recruitment of new members. While several policies already address individuals with criminal backgrounds and skills (eg by increasing penalties for recidivist offenders, or imposing administrative, police, and judicial restrictions on their rights), social ties have received less attention. For example, children and other relatives of organised crime members could be targeted by welfare, educational and employment programs aimed at preventing recruitment into organised criminal groups.

Last, despite the limitations discussed above, the review showed a growth of studies on recruitment into organised criminal groups adopting more rigorous methods (both qualitative and quantitative). Most of the selected studies were published after 2000 and several additional studies were published after the end of the data collection period (Campedelli et al. 2019; Caprì et al. 2018; Fuller, Morgan & Brown 2019; van Dijk, Kleemans & Eichelsheim 2018; Morgan, Brown & Fuller 2018; Sergi 2018). Furthermore, some recent studies have assessed relatively new factors in the field, such as psychological traits (Bottini, Fiorina & Salvato 2017; Ostrosky et al. 2012; Salvato et al. in press; Schimmenti et al. 2014). In conclusion, while this systematic review showed that knowledge of the factors leading to recruitment into organised criminal groups is far from comprehensive, there are reasons to believe that this situation will likely improve within a few years.

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Appendix

Table A1: Included quantitative studies							
Source	Type of OCG	Sample ^a	Data collection	Data analysis	Categories of factors	Country	Relevant findings
Blokland et al. (2019)	Other criminal organisations	601	Official data	Descriptive statistics T-test Chi square Logistic regression	Age Criminal background and skills	Netherlands	Outlaw motorcycle gang membership is positively associated with having a criminal record
Carvalho & Soares (2016)	DTOs	230	Interviews	Descriptive statistics Mincerian regression	Age Ethnicity Educational background Economic conditions	Brazil	Individuals join DTOs for monetary gain
Giménez-Salinas & Regadera (2016)	OCGs	2,384	Investigative files	Descriptive statistics	Age Gender Ethnicity Social ties Criminal background and skills	Spain	Individuals join OCGs because they have special expertise developed outside the criminal world
Jhi & Gerber (2015)	Gangs	190	Survey	Descriptive statistics Logistic regression	Employment Economic conditions	US	Gang membership is positively associated with unemployment
Kirby et al. (2016)	Other criminal organisations	4,109	Official data	Descriptive statistics Chi square Kruskal–Wallis test	Age Gender Ethnicity Criminal background and skills	UK	Compared with general offenders, OC offenders are more often male and ethnically heterogeneous and more likely to have drug offence records
Kissner & Pyrooz (2009)	Gangs	200	Interviews	Logistic regression	Age Social ties Psychological factors	US	Persistent gang involvement is associated with poor self-control

Table A1: Included quantitative studies cont.							
Source	Type of OCG	Sample ^a	Data collection	Data analysis	Categories of factors	Country	Relevant findings
May (2009)	Gangs	138	Survey	Descriptive statistics Correlation Logistic regression	Group identity Psychological factors	US	Gangs constitute a form of social support for members
Ostrosky et al. (2012)	OCGs & DTOs	82	Interviews; Documents	Descriptive statistics	Age Economic conditions Psychological factors	Mexico	Individuals join DTOs seeking monetary gain and a lifestyle characterised by accumulation and display of material wealth
Requena et al. (2014)	OCGs	200	Investigative files	Descriptive statistics	Gender Social ties Silence/omertà	Spain	Women get involved in OCGs through personal networks, ie family ties and emotional ties
Schimmenti et al. (2014)	Mafias	69	Interviews	Descriptive statistics T-test Chi square Logistic regression	Psychological factors	Italy	Mafia members have high levels of antisocial traits and low levels of interpersonal-affective traits of psychopathy
Unlu & Ekici (2012)	DTOs	230	Investigative files	Descriptive statistics Chi square	Age Gender Economic conditions	Turkey	Men from low-income societies can join DTOs and work as couriers for monetary gain
Wang (2013)	DTOs	222	Interviews	Content analysis CHAID Logistic regression	Ethnicity Employment Economic conditions Social ties	UK	Early starters join DTOs to pay for entertainment expenses, while late starters because of financial difficulties

a: The sample reports the number of individuals included in the studies

Note: CHAID=chi-square automatic interaction detection. DTO=drug trafficking organisation. OC=organised crime.

OCG=organised criminal group

Source: Adapted from (Savona, Calderoni, Superchi et al. 2017: 35)

Table A2: Included qualitative studies					
Source	Type of OCG	Data collection	Categories of factors	Country	Main findings
Albini (1971)	Mafias	Interviews Informants Documents	Educational background Economic conditions Social ties Group identity Criminal background and skills Silence/omertà	Italy	Recruitment into OCGs is based on friendship, kinship, contract, and patron-client relationships
Arlacchi (1983)	Mafias	Interviews Investigative files Judicial records	Age Educational background Social ties Group identity Criminal background and skills	Italy	Individuals who join mafias come from the middle-class, have an average educational background and have managerial skills
Arsovska (2015)	Other criminal organisations	Interviews Investigative files Judicial records	Age Ethnicity Economic conditions Social ties Group identity Criminal background and skills	Albania, Macedonia, Kosovo, Greece	Individuals are recruited into OCGs based on ethnic ties, kinship ties, and display of violent behaviour
Behan (1996)	Mafias	Interviews Investigative files	Age Economic conditions Social ties Criminal background and skills	Italy	Incarcerated individuals and especially young people attracted by the cult of violence can join mafias

Table A2: Included qualitative studies cont.					
Source	Type of OCG	Data collection	Categories of factors	Country	Main findings
Brancaccio (2017)	Mafias	Investigative files Judicial records	Employment Economic conditions Social ties Criminal background and skills	Italy	Individuals enter mafias because of kinship and blood ties, coupled with poor economic conditions and violent/risk-taking behaviour
Brotherton & Barrios (2004)	Gangs	Interviews Documents	Economic conditions Group identity	US	While females join gangs through blood ties, males rely on kinship and social relations developed in prison
Ciconte (1992)	Mafias	Judicial records Documents	Age Ethnicity Educational background Employment Economic conditions Social ties Criminal background and skills Silence/omertà	Italy	Kinship and blood ties and a lack of legitimate occupations facilitate recruitment into mafias
Cressey (1969)	Mafias	Interviews Investigative files Judicial records	Age Ethnicity Social ties Group identity Criminal background and skills Silence/omertà	US	Values like honour, loyalty and silence are crucial for individuals aiming to join mafias
Decker & Chapman (2008)	DTOs	Interviews	Ethnicity Economic conditions Social ties Criminal background and skills	US Latin America	Ethnic ties have a crucial role in DTO membership

Table A2: Included qualitative studies cont.

Source	Type of OCG	Data collection	Categories of factors	Country	Main findings
Densley (2012)	Gangs	Interviews	Group identity Criminal background and skills	UK	Individuals are recruited into gangs based on personal features like criminal competency and group loyalty
Gambetta (1993)	Mafias	Interviews Judicial records	Employment Social ties Group identity Criminal background and skills Silence/omertà	Italy	Upholding the code of silence and having relevant expertise (eg violence) are crucial factors for being recruited into mafias
García (2006)	DTOs	Tapes and CDs	Group identity	Mexico	Individuals get involved in DTOs because of their need for power, belonging, respect, security and pride
Gordon (2000)	Gangs	Interviews	Ethnicity Economic conditions Social ties	Canada	Individuals often access gangs through close friends due to ethnic marginality and the attraction of supportive peer groups
Hess (1973)	Mafias	Judicial records Documents	Educational background Economic conditions Social ties Group identity Criminal background and skills Silence/omertà	Italy	Individuals join mafias through social relations, especially because of their ability to connect criminal members with third parties, like other criminal groups or representatives of legitimate businesses
Hixon (2010)	Gangs	Interviews	Gender Group identity Psychological factors	US	Individuals recruited into OCGs usually have a history of negative and arrested development resulting in antisocial personality disorders
Lo (2010)	Mafias	Documents	Social ties Group identity Criminal background and skills Silence/omertà	China	Being able to connect people from different environments favours recruitment into Chinese Triads

Table A2: Included qualitative studies cont.

Source	Type of OCG	Data collection	Categories of factors	Country	Main findings
Lupo (1993)	Mafias	Judicial records Documents	Ethnicity Social ties Criminal background and skills Silence/omertà	Italy	Mafias mainly recruit new members based on ethnicity and kinship/blood ties
Paoli (2003)	Mafias	Interviews Documents	Social ties Group identity Silence/omertà	Italy	The contract of fraternisation (status contract) among mafia members extends the bonds of loyalty and obligation beyond family ties, giving them mutual support and trust
Sales (2015)	Mafias	Judicial records Documents	Educational background Employment Economic conditions Social ties Criminal background and skills	Italy	Individuals capable of strategic use of violence are recruited into mafias
Sciarrone (2014)	Mafias	Judicial records	Social ties	Italy	Mafias mainly recruit new members based blood and kinship ties which are reinforced through an initiation ceremony with specific rituals
Sergi (2016)	Other criminal organisations	Investigative files Documents	Economic conditions Social ties Group identity Psychological factors	Italy	Being part of an OCG results from cultural transmission and gradual learning; therefore kinship and blood ties have a crucial role in the recruitment of new members
van Koppen (2013)	Other criminal organisations	Investigative files	Employment Economic conditions Social ties	Netherlands	Individuals engage in OC activities exploiting their skills and kinship/blood ties, as criminals prefer to work with family members or close friends

Table A2: Included qualitative studies cont.

Source	Type of OCG	Data collection	Categories of factors	Country	Main findings
van San and Sikkens (2017)	DTOs	Interviews Informants	Gender Economic conditions Social ties	Netherlands Peru	Female smugglers join DTOs mainly through their personal networks, ie family ties, romantic relationships, and friendships
Varese (2001)	Mafias	Interviews Investigative files Judicial records Documents	Social ties Criminal background and skills	Russia	Individuals joining mafias are recruited from a pool of trusted aspirants with no previous connections with law enforcement agents
Varese (2006)	Mafias	Documents	Social ties	Italy	The kin-based system of recruitment into mafias facilitates transplantation of criminal activities in new regions: when an entire family migrates, the criminal group reconstitutes itself
Varese (2011b)	Mafias	Interviews Judicial records Documents	Ethnicity Social ties Criminal background and skills	Italy Hungary US China Argentina	When Russian mafia groups migrate, they recruit new local members based on their dependability and proven ability to use violence
Zhang & Chin (2002)	Other criminal organisations	Interviews	Ethnicity Group identity	US China	Individuals enter Chinese OCGs to make money and because of direct connections with Chinese communities

Note: DTO=drug trafficking organisation. OCG=organised criminal group

Source: Adapted from Savona, Calderoni, Superchi et al. 2017: 37

Table A3: Included mixed-methods studies					
Source	Type of OCG	Data collection	Categories of factors	Country	Main findings
Giménez-Salinas, Requena & de la Corte (2011)	Other criminal organisations	Interviews Survey	Age Gender Employment Social ties Criminal background and skills	Spain	Individuals join OCGs because their employment could favour illegal activities or for extra income
Kleemans & de Poot (2008)	Other criminal organisations	Investigative files	Age Employment Social ties Criminal background and skills	Netherlands	Social relations in leisure and work settings may provide opportunities for joining OCGs throughout individuals' lives
Kleemans & van de Bunt (2008)	Other criminal organisations	Investigative files	Employment Social ties	Netherlands	Social relations in leisure and work settings may provide opportunities for joining OCGs throughout individuals' lives
Morselli (2003)	Mafias	Investigative files Documents	Social ties Criminal background and skills	US	Social relations and their management are crucial in the involvement and career in the mafias
van Koppen et al. (2010)	Other criminal organisations	Investigative files	Age Criminal background and skills	Netherlands	Most individuals involved in OCGs join as adults
van Koppen, de Poot & Blokland (2010)	Other criminal organisations	Investigative files	Criminal background and skills	Netherlands	Compared with general crime offenders, OC offenders more often have previous and serious judicial records
Varese (2011a)	Mafias	Investigative files	Gender Ethnicity Social ties	Italy	Women getting involved in the mafias have a more relevant role abroad than in their territory of origin
Varese (2013)	Mafias	Investigative files	Gender Ethnicity Social ties	Italy	Individuals getting involved in the mafias abroad mainly focus on economic investments and resource acquisition

Note: OC=organised crime. OCG=organised criminal group

Source: Adapted from Savona, Calderoni, Superchi et al. 2017: 41

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